

TENDER SPECIFICATION

No. BHEL/EDN/CCIP/KAPP/C&I/001

FOR

RECEIPT AT SITE, UNLOADING, INSPECTION, RE-PACKING AND SHIFTING TO STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, STORES MANAGEMENT, COMPLETE ERECTION, CALIBRATION, TESTING, COMMISSIONING ASSISTANCE, HOUSE KEEPING, WATCH & WARD AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR CONTROL CENTRE INSTRUMENTATION PACKAGE FOR KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4

AT

**KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4
P.O. ANUMALA via VYARA
GUJRAT-394651**

VOLUME – I

CONSISTING OF:

- **Notice Inviting Tender,**
- **Volume-IA : Technical Conditions of Contract-,**
- **Volume-IB : Special conditions of Contract,**
- **Volume-IC : General conditions of Contract**
- **Volume-ID : Forms & Procedures**

VOLUME – II

• PRICE BID SPECIFICATION

BHARAT HEAVY ELECTRICALS LIMITED



(A Govt. of India Undertaking)
ELECTRONICS DIVISION
PO BOX. 2606, MYSORE ROAD - BANGALORE 560026

CONTENTS			
Volume No	Description		
NIL	Tender Specification Issue Details	3 pages (including cover sheet)	
NIL	Notice Inviting Tender	21 pages (including cover sheet)	
I-A	Technical Conditions of Contract	85 pages (including cover sheet)	
I-B	Special Conditions of Contract	41 pages (including cover sheet)	
I-C	General Conditions of Contract	28 pages (including cover sheet)	
I-D	Forms & Procedures	71 pages (including cover sheet)	
II	Price Bid Specification	15 pages (including cover sheet)	

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)
ELECTRONICS DIVISION

PO BOX. 2606, MYSORE ROAD - BANGALORE 560026

FOR

RECEIPT AT SITE, UNLOADING,INSPECTION, RE-PACKING AND SHIFTING TO STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, STORES MANAGEMENT, COMPLETE ERECTION, CALIBRATION, TESTING, COMMISSIONING ASSISTANCE, HOUSE KEEPING, WATCH & WARD AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR CONTROL CENTRE INSTRUMENTATION PACKAGE FOR KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4

AT

KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4
P.O. ANUMALA via VYARA
GUJRAT-394651

LAST DATE FOR
TENDER SUBMISSION

Refer Notice Inviting Tender

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II ARE ISSUED TO:

M/s.

PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

DGM (CCIP)
Place: BANGALORE
Date :

REV00
27th Aug
2013

NOTICE INVITING TENDER

DOC NO. BHEL/EDN/CCIP/KAPP/C&I/001 REV.00
DT.27/08/2013

Bharat Heavy Electricals Limited
ELECTRONICS DIVISION, BANGALORE



Ref: BHEL/EDN/CCIP/KAPP/C&I/001

Date: 20/09/13

NOTICE INVITING TENDER (NIT)
NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES
OR
PURCHASE TENDERS FROM THIS OFFICE ALSO

=====

To

Dear Sir/Madam

Sub : NOTICE INVITING TENDER

Sealed offers in two part bid system are invited from reputed & experienced bidders (**meeting PRE QUALIFICATION CRITERIA** as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHEL/EDN/CCIP/KAPP/C&I/001
ii	BROAD SCOPE OF JOB	RECEIPT AT SITE, UNLOADING,INSPECTION, RE-PACKING AND SHIFTING TO STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, STORES MANAGEMENT, COMPLETE ERECTION, CALIBRATION, TESTING, COMMISSIONING ASSISTANCE, HOUSE KEEPING, WATCH & WARD AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR CONTROL CENTRE INSTRUMENTATION PACKAGE FOR KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4

iii DETAILS OF TENDER DOCUMENT			
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i>	<i>Applicable</i>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	<i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	<i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>	<i>Applicable</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i>	<i>Applicable</i>
iv	ISSUE OF TENDER DOCUMENTS	<p>1. <u>Sale from BHEL EDN-Bangalore office:</u> Start : 20/09/ 2013 Closes: 15/10/2013 , Time :14.00 Hrs</p> <p><u>CONTACT PERSONS</u></p> <p>DGM(CCIP) BHEL-ELECTRONICS DIVISION ,PB NO. 2606 , MYSORE ROAD,BANGALORE</p> <p>2. From websites (www.bhel.com, www.bheledn.com, www.tenders.gov.in)</p> <p>Tender documents can however be downloaded from website till due date of submission</p>	<i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	<p>Date : 16/10/2013 , Time :14.00Hrs Place :BHEL-EDN, Bangalore</p>	<i>Applicable</i>
vi	OPENING OF TENDER	<p>Date : 16/10/2013 Time 15.00 Hrs Notes: (1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time. (2) Bidder may depute representative to witness the opening of tender with authority letter</p>	<i>Applicable</i>
vii	EMD AMOUNT	<i>Rs 2,00,000/- (Rupees Two Lakhs Only)</i>	<i>Applicable</i>

viii	COST OF TENDER	<i>Rs 2000/-.</i>	<i>Applicable</i>
ix	LAST DATE FOR SEEKING CLARIFICATION	<p>Date: Atleast 5 days before the due date of offer submission Along with soft version also, addressing to undersigned & to others as per contact address given below</p> <p style="text-align: center;">DGM(CCIP) BHEL-ELECTRONICS DIVISION ,PB NO. 2606 , MYSORE ROAD,BANGALORE Email :pgade@bheledn.co.in</p>	<i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date : Not applicable.	Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Not Applicable	Not Applicable
xii	LATEST UPDATES	<p>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted only in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums and www.bheledn.com) and not in the newspapers. Bidders to keep themselves updated with all such information. No separate communication to individuals shall be sent regarding this.</p>	

2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, **duly signed & stamped on each page clearly indicating Accepted/Confirmed/Deviation (as the case may be), as part of offer. Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained and any such offer is liable for rejection.**

- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at ELECTRONICS DIVISION, BANGALORE issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day(between 10.00AM and 02:30PM Monday to Friday and 10.00AM to 11.30AM on Saturday); and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL-EDN, Bangalore and Sundays .
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Bangalore. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders: The Tenderers must submit their Tenders to Officer inviting Tender, either through Speed Post/Courier or In person, as detailed below:**
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and super-scribed envelopes (ENVELOPE-I & ENVELOPE-II)
 - PART-II (Price Bid) – in sealed and super-scribed envelope (ENVELOPE-III)
- 6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped, as per Cl. No. 2.0 above)**

Sl no	Description	Remarks
	Part-I A	
	<p><u>ENVELOPE – I superscribed as :</u> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p><u>CONTAINING THE FOLLOWING:-</u></p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p><u>Note:</u></p> <p>a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document</p>	

	<p>under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p style="padding-left: 40px;">a) In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p style="padding-left: 40px;">b) In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
iii.	<p>Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>	
iv.	All Amendments/Correspondences/Corrigenda/ Clarifications/Changes/ Errata etc. pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	Not applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

PART-I B		
	<p><u>ENVELOPE – II superscribed as:</u> PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:-</p>	
i.	<p>1. Earnest Money Deposit (EMD) in the form as indicated in this Tender</p> <p><u>OR</u></p> <p>Documentary evidence for 'One Time EMD' with the BHEL-Electronics Division</p> <p>2. Cost of Tender (Demand Draft or copy of Cash Receipt as the case may be)</p>	

PART-II		
	PRICE BID consisting of the following shall be enclosed	
	<p><u>ENVELOPE-III</u> superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING</p>	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID (Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

OUTER COVER	
	<p>ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:</p>
i	<ul style="list-style-type: none"> ○ Envelopes I ○ Envelopes II ○ Envelopes III

SPECIAL NOTE : All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

7.0 No Deviation with respect to tender clauses and no additional clauses/ suggestions/ in Techno-commercial bid/ Price bid shall normally be considered by BHEL. Bidders are requested to positively comply with the same.

8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 Assessment of Capacity of Bidders:
Bidders capacity for executing the job under tender shall be assessed ‘LOAD’ wise and ‘PERFORMANCE’ wise as per the following:

I. **LOAD**: Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The ‘Load’ is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning ‘Load’ shall be the month, two (2) months preceding the month corresponding to the ‘latest date of bid submission’, in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the ‘load’ shall be calculated upto and inclusive of June 2011)

i). Total number of Packages

Total number of Packages in hand = P

Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced.

ii) Weightage "A" assigned to bidders based on Total number of Packages

'P':

- If 'P' = 0-9, : "A" will be equal to '4'
- If 'P' = 10-18, : "A" will be equal to '3'
- If 'P' = 19-36, : "A" will be equal to '2'
- If 'P' = 37-60, : "A" will be equal to '1'
- If 'P' is above 60 : "A" will be equal to '0'

II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

i) Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions:

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

a) $P_1, P_2, P_3, P_4, P_5, \dots, P_N$ etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (ie $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$)

b) Number of Months ' T_1 ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P_1 . Similarly T_2 for package P_2, T_3 for package P_3 , etc for the tendered scope. Now calculate cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$)

c) Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-N}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$). Similarly S_2 for package P_2 for period T_2, S_3 for package P_3 for period T_3 , etc for the tendered scope for all Regions. Now calculate cumulative sum ' S_T ' of 'Monthly

Performance Evaluation' Scores for total similar Packages 'P_T' for all Regions (i.e 'S_T' = S₁₊ S₂₊ S₃₊ S₄₊ S₅₊.... S_N.)

d) Overall Performance Rating 'R_{BHEL}' for the similar Package/Packages (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):

Aggregate of Performance scores for all similar packages in all the Regions
= -----

Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions

$$S_T$$

$$= \frac{\text{-----}}{T_T}$$

e) Bidders to note that the risk of non evaluation or non availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder

f) Table showing methodology for calculating 'a', 'b' and 'c' above

Sl no	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions →	P1	P2	P3	P4	P5	...	PN	Total No of similar packages for all Regions = P _T ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment for corresponding similar Package (as in row 1)	T1	T2	T3	T4	T5	...	T _N	Sum (Σ) of columns (iii) to (ix) = T _T
3	Monthly performance	S ₁₋₁ , S ₁₋₂ ,	S ₂₋₁ ,	S ₃₋₁ ,	S ₄₋₁ ,	S ₅₋₁,	.. ...	S _{N-1} ,	-----

	scores for the corresponding period (as in Row 2)	S1-3, S1-4, ... S1-T1	S2- 2, S2- 3, S2- 4, ... S2- T2	S3- 2, S3- 3, S3- 4, ... S3- T3	S4- 2, S4- 3, S4- 4, ... S4- T4	S5- 2, S5- 3, S5- 4, ... S5- T5	... ... ...	SN- 2, SN- 3, SN- 4, ... SN- TN	
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S1	S2	S3	S4	S5	...	SN	Sum (Σ) of columns (iii) to (ix) = ST

ii) Weightage “B” assigned to bidders based on Overall Performance Rating (R_{BHEL}) at Power Sector Regions, for the respective Package:

- a) If R_{BHEL} is $\geq 80\%$, “ B” will be equal to ‘ 6’
- b) If R_{BHEL} is $\geq 75\% < 80\%$, “ B” will be equal to ‘5’
- c) If R_{BHEL} is $\geq 70\% < 75\%$, “ B” will be equal to ‘ 4’
- d) If R_{BHEL} is $\geq 65\% < 70\%$, “ B” will be equal to ‘ 3’
- e) If R_{BHEL} is $\geq 60\% < 65\%$, “ B” will be equal to ‘ 2’
- f) If R_{BHEL} is $< 60\%$, “B” will be equal to ‘0’

III. ‘Assessment of Capacity of Bidder’ to be Qualified for the tender:

Shall be based on the sum of the weightages obtained in ‘LOAD’ (A) and ‘PERFORMANCE’ (B) as below:

- a) If the sum (A+B) is 6 or above for each of the applicable Package, then the Bidder is considered ‘Qualified’ for the tender**
- b) If the sum (A+B) is less than 6 for any of the applicable Package, then the Bidder is considered ‘NOT Qualified’ for the tender**

IV. Explanatory note:

- a) Similar package means Electrical and C & I at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package (i.e the ‘identified packages as per Table-1 below), the

.....
'PERFORMANCE' part against sl no II above, needs to be evaluated considering all the identified packages and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above

b) Identified Packages (Unit wise)

Table-1

	Electrical and C&I
	i). Electrical ii). C&I iii). Others (Elec and C&I)

c) Vendors who are first timers to any BHEL Region **OR** approved by M/s NPCIL for similar work, may be considered subject to satisfying other tender conditions. Eligibility of the party for the next tender of any package in that Region, shall be subject to the bidder satisfying the 'Assessment of Capacity of Bidder' for a period of first **nine months** after commencement of work or contract duration whatever is lesser.

In case the first timer is executing any C&I and Electrical packages in any BHEL Region, then the performance evaluation will be based on the data available for the other packages though not similar, for the 'Period of assessment', for the purpose of 'Assessment of Capacity of Bidder'

d) Vendors who are not first timers and who have not been executing any package or packages similar to the packages under the tender in the 'Period of assessment', shall be considered qualified subject to them satisfying all other tender conditions.

e) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders', then BHEL at its discretion, reserves the right to consider the further processing of the Tender based on the **Overall performance Rating 'R_{BHEL}'** only.

f) 'Under execution' shall mean works in progress as per the following:

- i. upto Boiler Steam Blowing in case of Steam Generator and Auxilliaries
- ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
- iii. upto execution of at least 75% of anticipated contract value (unit wise), in case of Enabling works or Civil & Structures.

Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.

- g) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work

10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including location of various work places , available facilities, law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.

11.0 For any clarification on the tender document, the bidder may seek the same in writing or through email, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.

12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.

13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.

14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.

15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**

16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.

17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL

.....
reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.

18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.

19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction.

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.

21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.

22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.

23.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:

23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.

23.2 'Stand alone' bidder cannot become a **'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding**. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.

23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR

23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work

23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified

for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0

23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'

23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified

23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.

23.9 Prime Bidder shall be responsible for the overall execution of the contract

23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats

23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.

23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.

23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.

23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.

23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also

24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.

.....
25.0 The bidder may have to produce original document for verification if so decided by BHEL.

26.0 Order of Precedence In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

DGM(CCIP)

Enclosure

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
- 03 Annexure-3: Important Information

ANNEXURE - 1

11 PRE QUALIFYING REQUIREMENTS

JOB	
TENDER NO	

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	Submission of Integrity Pact duly signed (if applicable) (Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)		
B	<u>Technical</u> Refer explanatory note for details		
C-1	<u>Financial TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of 30% of quoted price or more over last three Financial Years (FY) i.e,2009-2010,2010-2011, 2011-12 & 2012-13 (if available)		
C-2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive		
C-3	PROFIT Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.		
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)		By BHEL
E	Approval of Customer (if applicable) Note: Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval.		APPLICABLE (To be taken by BHEL)
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		BY BHEL
G	Consortium criteria (if applicable)		
H	Solvency Certificate of Min. Rs. 1Cr. issued by Nationalised bank only (as per attached format)		

Explanatory Notes for the PQR (unless otherwise specified in the PQR):

1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures
2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.
3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)
4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above
5. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, unless otherwise specified :
 - i. Bidder should have executed similar work of any one of the following:
 - a. One (1) work of value not less than 80% of quoted price
OR
 - b. Two (2) works of not less than 50% of quoted price
OR
 - c.** Three (3) works of not less than 40% of quoted price
 - ii. 'Similar' work for criteria 5 above means
 - a. Electrical works in respect of 'ELECTRICAL'
 - b. CI works in respect of 'CI' Works
 - c. Material Handling and/or Management works in respect of 'MM' works
6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission
7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed
8. Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:
 - i. "BOILER LIGHT UP" in respect of Boiler & Aux and ESP
 - ii. "SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG
 - iii. "STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping
 - iv. "HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping
 - v. "CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears
 - vi. "Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form" in case of RCC Chimney.
 - vii. Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works
 - viii. "Readiness for coal Filling" in respect of Bunker Structure Work.
9. Boiler means HRSG or WHRB or any other types of Steam Generator
10. Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines
11. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.
12. In case the experience/PO/WO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.
13. Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.
14. In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

CHECK LIST

NOTE:- Tenderers are required to fill in the following details and no column should be left blank

1	Name and Address of the Tenderer	
2	Details about type of the Firm/Company	
3a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:
3b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:
4	EMD DETAILS	DD No: Date : Bank : Amount: <u>Please tick (<input checked="" type="checkbox"/>) whichever applicable:-</u> ONE TIME EMD / ONLY FOR THIS TENDER
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE

		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable	YES/NO
8	Copy of PAN Card	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Not Applicable	Not Applicable
11	Declaration by Authorized Signatory	Applicable	YES/NO
12	No Deviation Certificate	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable	YES/NO
15	Non Disclosure Certificate	Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	YES/NO
20	Analysis of Unit rates	Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED ABOVE
APPLICABLE DOCUMENTS ARE LIABLE TO BE SUMMARILY REJECTED

DATE :
(With Name, Designation and Company seal)

AUTHORISED SIGNATORY

ANNEXURE-3 IMPORTANT INFORMATION

The offers of the bidders, who are on banned list, as also the offers of bidders, who engage the services of banned firms, shall be rejected. The list of banned firms is available on BHEL web site (www.bhel.com ---> Tender Notifications → List of Banned Firms)

REV.00
27TH Aug
2013

VOLUME -IA TECHNICAL CONDITIONS OF CONTRACT (TCC)

(DOC. NO. BHEL/EDN/CCIP/KAPP/C&I/TCC REV.00
DT. 27/08/2013)

**BHARAT HEAVY ELECTRICALS LIMITED
ELECTRONICS DIVISION, BANGALORE**



SI No	DESCRIPTION	Chapter	
Volume-IA	Part-I: Contract specific details		
1	Project Information	Chapter-I	
2	Scope of Works	Chapter-II	
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	
6	Time Schedule	Chapter-VI	
7	Terms of Payment	Chapter-VII	
8	Taxes and other Duties	Chapter-VIII	
9	Specific Inclusion	Chapter-IX	
10	Specific Exclusion	Chapter-X	
11	Annexures		
	Technical details & BOQ	Annexure I	

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – I: Project Information

1.0	Project Information
1.1	<p>1. Purchaser / Owner : N P C I L</p> <p>2. Project Title : 2x700MWe PHWR-KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4</p> <p>LOCATION AND APPROACH :</p> <p>1. Plant Location : P.O. ANUMALA via VYARA , DIST.- SURAT GUJRAT-394651</p> <p>2. Address Details : 2X700 MWe NPCIL ATOMIC POWER PROJECT KAKARAPARA, DIST. - SURAT Pin Code - 394651 GUJARAT, INDIA</p> <p>3. Nearest Air Port : Surat – 86KM</p> <p>4. Nearest Railway Station : VYARA and MADHI (WESTERN RAILWAYS)</p> <p>5. Data of Seismic Design : Zone - III</p> <p>6. Rainfall : a) Average : 1941 mm, b) Max recorded in 1 hour : 90 mm c) Max recorded in 24 hrs : 482 mm</p> <p>7. Ambient air temperature (Average) : a) Maximum : 43.8 C b) Minimum : 4.5 C</p> <p>8. Climatic Condition : Dry And Hot.</p> <p>9. Rainy Season : South West Monsoon from Mid June to September</p> <p>10. Relative humidity, % : Max.100% RH during monsoon and Min. 2% RH during Dec to Jan</p>

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 Works

2.0.0 SCOPE OF WORK INVOLVING ERECTION, TESTING, COMMISSIONING, CALIBRATION, HOUSE KEEPING AND WATCH & WARD

2.1.0 BROAD SCOPE OF WORK

2.1.1

The work covered under this specification is of highly sophisticated nature, requiring the best quality of workmanship, engineering and construction management. The contractor should ensure timely completion of work. The contractor must have adequate quantity of tools, measuring instruments, calibrating equipment etc. in his possession. He must also have on his rolls adequately trained, qualified and experienced engineers, supervisory staff and skilled personnel. The manpower deployment identified by contractor should match requirement of sophistication involving microprocessor-based control systems.

2.1.2

The work shall be executed under the usual conditions affecting major Nuclear power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall co-operate with the personnel of other agencies, co-ordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

2.1.3

All the work shall be carried out as per the instructions of BHEL engineer. *BHEL engineer's decision regarding the correctness of the work and method of working shall be final and binding on the contractor.*

2.1.4

The services, tests and support to be provided by the agency for the work mentioned in the various sections of this tender are indicative and not exhaustive, but not limited to these for the completion of the work in all respects.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.1.5

Contractor shall calibrate, erect, carry out cabling and terminations, commission all the equipments, cabinets/panels, instruments etc. as per sequence prescribed by BHEL at site. The sequence of erection / commissioning methodology will be decided by the BHEL engineers depending upon the availability of materials/work fronts etc. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of erection / commissioning adopted in erection / commissioning of similar jobs or for any reasons whatsoever.

2.1.6

The work to be carried out under the scope of this specification covers the complete work of

- a) Receipt, Unloading, Unpacking, Inspection, Repacking, Preservation till taken for erection, Transporting, preassembly, erection, terminations, calibration, testing, pre commissioning tests, assistance during commissioning of systems, trial run of various auxiliaries, achieving various activities till handing over of the unit to BHEL's customer,

The work shall conform to dimensions and tolerances specified in various drawings that will be provided during the erection. If any portion of the work is found to be defective in workmanship or not conforming to drawings or other specifications, the contractor shall dismantle and re-do the work duly replacing the defective materials at his cost.

- b) Material handling and Stores Management as described later, including issue of documents connected with material receipt, damages, if any, during transit etc.
- c) Supply of consumables and hardware such as Hilti bolts/Fisher anchor (seismically qualified and approved), welding electrodes, nuts, bolts, screws, paints, wire lugs, PVC wire sleeves (suitable for thermal printing) and any other such material required for completion of erection works , as per erection procedure or otherwise deemed necessary for completion of work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

- d) Providing testing instruments, work shop tools inclusive of their maintenance.
- e) Providing all erection tools and machinery including special tools/machinery required to be used for completion of jobs.
- f) Carry out testing of Instruments and equipment.
- g) Erection of panels/racks/panels (including alignment with adjacent panels and welding to EPs), wire terminations (this EXCLUDES cable laying and glanding) to complete control and instrumentation installation in the field for various systems as per various GA/WD/TL etc and as per Instrument Erection Procedure and as per instruction of BHEL Engineer, if required.
- h) Only Wire terminations in MJBs, Field Panels and FJBs. (Installation of JB/Field Panels and Cable laying and glanding etc. will be done by other agency)
- i) Implementation of Engineering Change Notices (ECNs) and Field Change Notices (FCNs) involving additions/deletion of wires, instruments and their terminations.
- j) Assistance during Integration, testing, functional checking and commissioning of systems.
- k) Provide support during overall commissioning of the system and attend the equipment/system for any problem.
- l) Protection of erected instruments/equipments from damages, deposition of dirt/dust, splash of water etc.
- m) Preparing and documenting all formats for recording observations/data during erection/testing, requisitioning for QS, billing, measurement etc.
- n) Void.
- o) VOID.
- p) Services for Planning and Monitoring

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

- q) Implementation of all safety and QA related guidelines as per site practice and approved QA manual.
- r) Housekeeping of area allocated as per project housekeeping requirements.
- s) All works shall be performed in strict conformity with all applicable local codes/international codes/specific procedures developed for the job and safety regulations.

Contractor to note that in addition to BHEL requirements of safety, occupational health and environmental management, contractor shall strictly follow & abide by the safety laws/rules & regulation requirements of NPCIL at site and in the event of any deviation/ dispute, the requirements of NPCIL in this regard shall be final and binding on contractor

- t) Where permitted, by Customer/ BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permit for working beyond normal working hours.

2.1.7

The terminal points as decided by BHEL shall be final and binding on the contractor.

2.1.8

Descriptions of certain packages appearing in the rate schedule are available in this section and also in Appendix-I, to give general idea to bidder about the type of equipment to be erected, calibrated, tested and commissioned.

Control Centre Instrumentation Erection work broadly covers following systems:

- i). Control Distribution Frame (CDF)
- ii). Buffer Termination Cabinet (BTC)
- iii). Main Annunciation System (MAS)
- iv). Main and Emergency Air Lock Control System
- v). PHT Instrumentation Panel
- vi). Emergency Core cooling System (ECCS), Multiple Input Alarm System (MIAS) and Logic Relay Panel

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

- vii). Fuel Handling Control System
- viii). Shut Down System-1 (SDS#1)
- ix). Shut Down System-2 (SDS#2)
- x). Beetle Monitoring System (BMS)
- xi). Emergency Transfer System (EMTR)
- xii). Electrical Supervisory Control and Data Acquisition (ESCADA)
- xiii). Class-II 240VAC Main Control Centre Power Supply Distribution System
- xiv). Class-III 240VAC Main Control Centre Power Supply Distribution System
- xv). 24V DC Main Control Centre Power Supply Distribution System
- xvi). 220 VDC Main Control Centre Power Supply Distribution System
- xvii). 240VAC Backup Control Centre Power Supply Distribution System
- xviii). 24VDC Backup Control Centre Power Supply Distribution System
- xix). Main Control Room Panels and Operator Consoles
- xx). Logic Relay Panels
- xxi). Digital Recording Systems (DRS)
- xxii). Safety Test and Monitoring System (STMS)
- xxiii). Reactor Control and Monitoring System (RCMS)
- xxiv). Reactor Process Control and Monitoring System (RPCMS)
- xxv). Containment Ventilation and Common Services Control Monitoring System (CVCSCMS)
- xxvi). Backup Control Room Panel (BCRP)
- xxvii). Personal Contamination Information System (PCIS)

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

xxviii). Radiation Data Acquisition System (RADAS)

2.1.9

During the course of erection, testing and commissioning of C&I work, certain rework/ modification/ rectification/ repairs/ fabrication etc., will be necessary on account of feedback from various sources and/or units under erection and commissioning and also on account of design discrepancies and manufacturing defects and site operation/ maintenance requirements. Contractor shall carryout such rework / modification / rectification / fabrication repairs etc. promptly and expeditiously. Daily log sheets indicating the details of work carried out, man hours, consumables used etc., shall be maintained by the contractor and got signed by BHEL engineer every day. Claims of contractor, if any, for such work will be dealt as per Clause 2.15 of General Conditions of Contract.

2.1.10

The contractor's scope of work is further described in the clauses hereafter:

2.1.11

All tools, tackles, fixtures, equipments, materials, manpower, supervisors/ engineers, consumables, welding electrodes including oxygen, acetylene argon etc gases, primers, paints etc. required for this scope of work shall be provided by the contractor. All expenditure including taxes and incidentals in this connection will have to be borne by him unless otherwise specified in the relevant clause. The contractor's quoted rates should be inclusive of all such contingencies. Electrodes shall be baked / dried in the electrode drying oven (range 375 – 425 deg C) to the temperature and period specified by BHEL Engineer before their use. Necessary drying oven / portable oven shall be provided by the contractor at his cost.

2.1.12

VOID

2.1.13

Equipments /instruments required to be erected for this work, though not limited to but are generally as per rate schedule. For any items or class of work not specified herein but required for total completion of work, the same shall be

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

carried out as per BHEL requirement. However the payment of these items/class of work shall be regulated as per the General Condition of the contract.

Contractor shall provide necessary resources for completion of such work within the stipulated time schedule. Value of such work shall be included while computing the total value of work finally executed for all contractual purposes, particularly for contract variation purpose.

2.2.0 MATERIAL HANDLING AND STORES MANAGEMENT

2.2.1 Broad scope of the Contractor for Receipt & Issue of Materials

2.2.1.1

Receipt, unloading, carrying out receipt inspection, detailed verification, stacking and regular stock verification of project materials at site

It will be responsibility of the contractor to keep in touch with officials of BHEL regarding advance information about arrival of consignments. The contractor shall collect lorry way bills or other such dispatch documents

2.2.1.2

Preparing various reports at appropriate stages and reporting damage/loss during receipt as well as storage and any other associated responsibility as assigned by BHEL from time to time.

2.2.1.3

Detailed verification of materials with reference to packing list and loading advice slip after unpacking of boxes & crates, repacking after detailed verification, preparation of receipt inspection reports and store them in the stores of BHEL, till these are taken up for Erection.

2.2.1.4

It would be responsibility of the contractor to examine the packages, consignments etc. immediately on arrival and bring to the notice of BHEL

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

authorities regarding loss/damage/shortage/discrepancy, if any, observed in the consignments before taking delivery of the same.

Any discrepancy/shortage/damage found in the consignment after taking clean delivery from the carriers shall be the responsibility of contractor and the resultant loss to BHEL on such account shall be recoverable from the contractor.

2.2.1.5

Consignments are expected to arrive during any time of the day, and count down for detention/demurrage/wharfage charges is liable to start immediately. Unloading of such consignments may be necessitated even in the night or round the clock. Contractor shall arrange to deploy his resources immediately and continue round the clock on such occasions without any additional cost to BHEL. Contractor shall arrange all necessary resources including spot lighting for working at night. The contractor shall similarly unload consignments arriving on weekly off days and holidays.

Detention charges/demurrage/wharfage etc., which result due to contractor's fault, shall be recovered from the bill payment due to the contractor.

2.2.1.6

Preservation of the materials received inside the project premises in accordance with BHEL/NPCIL's preservation manual or as per BHEL/NPCIL's instructions

2.2.1.7

Issue of materials to BHEL's erection contractors, preservation of stacked materials, re-stacking/re-handling as necessary, progressive and final reconciliation with BHEL's erection agencies and preparation of necessary document/ record in respect of these activities

2.2.1.8

Return of excess/defective materials by various erection contractors of BHEL

2.2.1.9

Handling, packing, loading and dispatch of outgoing materials that are to be sent to other destinations.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.2.2 BROAD SCOPE OF THE CONTRACTOR FOR MATERIALS MANAGEMENT

2.2.2.1

To provide services for Materials Management, operation of computerized materials management system– feeding data, updation, generation of status reports etc.

2.2.2.2

To provide one set of computer with printer and all required accessories at BHEL store office for Material entry/ report generation and updation of material records etc. its subsequent maintenance to keep it in fully working condition and operational

2.2.2.3

To provide required quantity and size of concrete / wooden sleepers for material storing and handling work as per requirement as scope of work

2.2.3 RECORD KEEPING

2.2.3.1

Contractor shall prepare, maintain and update various MM records, associated with materials management operation of BHEL at project site.

Some of these records are master shipping/packing list, LR/RR register, daybook register, stock register, records of issues to & return of materials in respect of various erection subcontractors, insurance claim records, periodical status reports in various formats covering desired aspects and output information as per BHEL/client's requirement.

2.2.3.2

Two systems of record keeping/capturing information & data at various stages are in vogue viz. **Manual ledgers & records and Computerized database** application using BHEL's own software application program that captures all the data in the entire chain of transactions starting with master list of project materials, records of dispatch, receipt, inspection, issue, return, consumption etc.

Contractor will be provided with necessary software and shall take utmost care to ensure that these properties and records are protected from any damage or loss. BHEL will recover the cost of such property / expenses of restoration from

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

the contractor with 30% overhead charges in case of any loss/damage attributable to negligence/failure on contractor's part.

2.2.4

All cranes, transport equipments, handling equipment, tools, tackles, fixtures, equipment, qualified operators with valid licenses, manpower, supervisors/engineers, consumables (excluding those indicated as BHEL scope), etc required for this scope of work shall be provided by the contractor.

2.2.5

All expenditure including taxes and incidentals in this connection will have to be borne by the contractor unless otherwise specified in the relevant clauses elsewhere here. The contractor's quoted rates shall include of all such contingencies. In this connection refer relevant clause of general conditions of contract.

2.2.6

The Contractor shall make arrangements for moving all the materials/equipments required for erection to the place of erection from the storage yard/ stores/sheds of BHEL. The Contractor shall also make arrangements for verification of equipment, safe custody, watch and ward of equipment after it has been handed over to him till these are fully erected, tested and commissioned and taken over by the customer. The contractor should note that the transport of equipments to erection site should be done by the prescribed route in the most professional manner without disturbing other ongoing works of various contractors. The contractor should also note that while taking delivery of materials from BHEL stores (open/closed), it may be necessary to handle other items which could be blocking the exit route of the materials. *This aspect shall be taken care of in the quoted rates and no extra payment shall be done in this regard.* It shall be the contractor's responsibility to arrange necessary cranes/tractors, trailer, trucks, fork lifts, slings, labour, etc., for Unloading/Loading and transport of equipment.

2.2.7

The contractor shall take delivery of the components, equipments and special consumables from the Store/storage area/sheds of BHEL. after getting the approval of the BHEL engineer on standard indent forms to be specified by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.2.8

The contractor shall handover all parts/materials remaining extra over the normal requirement with proper identification tags in a packed condition to BHEL stores. In case of any misuse or use over actual design requirements, BHEL reserves the right to recover the cost of parts/materials used in excess or misused. Decision of BHEL engineer in this regard will be final and binding on the contractor.

2.2.9

All works such as cleaning, leveling, aligning, trial assembly, dismantling of certain equipments/components for checking and cleaning, fabrication of tubes and pipes as per general engineering practice and as per BHEL engineer's instructions at site, cutting, weld depositing, grinding, straightening, chamfering, filing of cut outs/openings for mounting of console inserts, modules, indicators, recorders, drilling of holes for gland entries, reaming, scrapping, cable laying, dressing, fitting up etc. as may be applicable in such erection works are treated as incidentals to erection work and are necessary to complete the work satisfactorily shall be carried out by the contractor as part of the work.

2.2.10

The contractor should take all reasonable care to protect equipment and materials under his custody either in stores or at site. Copper tubing, brass fittings, brass valves etc. forming an integral part of equipment or system are liable to greater damages / pilferages / theft / losses. It will be responsibility of contractor to arrange for adequate security round the clock for protection from such damages / pilferages / theft / losses

2.2.11

All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings etc. shall be used for unloading and/or handling of the equipments without the specific written permission of the engineer. The equipment from the Store/storage yard shall be moved to the actual site of erection/location at the appropriate time as per the direction of BHEL engineer so as to avoid damage/loss of such equipment at site.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.2.12

The contractor shall collect all scrap materials periodically from various levels of power house, working area of the power station, and collect the same at one place earmarked for the same. Loads of scraps are to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's risk and cost, if there is any failure on the part of contractor in this respect.

2.2.13

All the surplus, damaged, unused materials, package materials, containers, special transporting frames, gunny bags etc. shall be returned to the BHEL stores by the contractor.

2.2.14

The contractor shall ensure that all the packing materials and protection devices used for the various equipments during transit and storage are removed before these equipments are erected in position.

2.2.15

Contractor shall plan and transport equipment/ components from Store/storage yard/sheds to erection site and erect them in such a manner and in a sequence that material accumulation at site should not lead to congestion. Materials shall be stacked neatly, preserved and stored in the BHEL Store/shed and work areas in an orderly manner. It may be specifically noted that the space available is limited and accumulation of material may lead to the necessity of shifting and restacking the materials to enable other agencies to carry on with their work or to comply with customer's requirements. If required, the contractor shall arrange shifting of surplus material expeditiously failing which the same will be arranged by BHEL and all charges together with departmental charges at 30% will be recovered from his bills.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.2.16 Re-shifting and re-stacking

2.2.16.1

Owing to several project requirements, many components may have to be shifted from originally stacked locations to elsewhere within the project premises, maximum distance around 2.5 kms. This may involve loading of such material onto a vehicle moving to a new location and unloading/stacking including proper inscription of identification marks if needed. List of items duly certified by BHEL official, shifted, updated stock records about change in location etc shall be prepared/submitted along with the monthly bills.

2.2.16.2

Re-handling and restacking of materials as and when called for by BHEL. This also includes excess/redundant materials returned to stores by BHEL's erection contractors

2.2.17

Housekeeping in the erection and preassembly area is as important as the well-planned and orderly work. The access to site for inspection, approaches by BHEL and customer engineers and leading of the material shall be made available by the contractor at all times. The shifting and re-shifting of erection materials, tools and plants and clearance of restrictions is the responsibility of the contractor. Contractor should visit the site and acquaint himself with all restrictions and difficulties that he may encounter during erection/commissioning stages.

2.2.18

Since this contract is intended to be a complete package from material receipt through issue/transactions right upto material reconciliation, full responsibility w.r.t the proper upkeep of facilities e.g. computers, stationary items; ensuring befitting discipline among the store assistants/staff under its control and accounting of materials on stock shall rest with the contractor at all times.

In the remote possibility of any untraceable material, customarily BHEL has to process the insurance claim.

To kick off such claim, the contractor shall render all necessary assistance including augmentation of documents (FIR etc), handling of underwriter's representative visits etc. within the quoted price as may be required for realization of the insurance claim.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.2.19 Expected minimum quality of service:

Contractor shall render the services by ensuring deployment of requisite personnel with adequate educational qualification of engineering/technical background, having thorough experience in related field to enable understanding the intricacies of and special requirements involved in handling of project materials, inconsistencies and uncertainties associated with in/out flow of materials, project activities at odd hours & holidays and irregular working hours. Contractor shall ensure prompt and timely availability of such services

2.2.20

The contractor shall perform all required services which may not be specified herein but nevertheless required for the completion of work within quoted rates.

2.2.21

All necessary certificates and licenses required to carry out this work are to be arranged by the contractor expeditiously

2.3.0 INSTALLATION OF PANELS

2.3.1

Electrical control panels, electronic control panels, etc., are normally supplied in suit of either one/two/three or loose shipping sections with integral base frame or loose supplied.

These panels may have to be installed as stand alone or in groups consisting of number of panels in each row, depending upon the plant layout and foundation arrangement.

2.3.2

Installation of panel shall include fixing of base frame, fabrication of base frame if required, leveling, alignment, welding and grouting of panels and base frames, fixing of anti-vibration pads, removal of side covers, fixing of cubicle interconnection hardware, bus bar jointing, wiring interconnection, , mounting of panel canopy wherever supplied as part of panel. In certain case where canopies

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

are not supplied but have to be fabricated out of MS sheets provided by BHEL, payment will be done on square meter basis.

2.3.3

All the required welding electrodes as approved by BHEL shall be arranged by contractor at his cost. It shall be the responsibility of the contractor to obtain prior approval of BHEL, before procurement, regarding manufacturer, type of electrodes etc. on receipt of the electrodes at

2.3.4

The Contractor shall maintain welding records in the form as prescribed by BHEL containing all necessary details, and submit the same to the BHEL Engineer as required. Interpretation of the BHEL Engineer regarding acceptability of the welds shall be final.

2.3.5

The contractor at his cost shall carry out periodical testing of his construction equipments and calibration of measuring & monitoring Equipments (MME). Test / calibration certificates shall be furnished to BHEL. MME shall be calibrated only at accredited laboratory as per the list available with BHEL or any other laboratory approved by BHEL. All calibration shall be traceable to national or international standards

2.3.6

All consumables to be used for the work shall have prior approval of BHEL engineer with regard to brand and quality specifications. Test reports / certificates in respect of these consumables, wherever applicable, shall be submitted to BHEL engineer.

2.3.7

Installation of equipment involves good quality welding, NDE checks, post weld heat treatment etc.

Contractor's personnel engaged should have adequate qualification on the above works. All the expenditure in testing/qualification of the Contractor's welder shall be borne by Contractor.

2.3.8

Before any welder is engaged on work, he shall be tested and qualified by BHEL/customer, though they may possess the IBR/other certificate. BHEL reserves the right to reject any welder without assigning any reason.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.3.9

Panels have to be shifted to their locations through floor openings, temporary openings like floor grills, door etc. which shall be part of work and no claim whatsoever will be entertained with regard to non-availability of opening as per shortest route etc. Panels have to be erected at different locations and elevation in various control rooms/simulator room etc.

2.3.10

Panel and instruments once erected in position should be properly protected using necessary care to prevent ingress of dust/moisture. This will have to be periodically cleaned and surroundings have to be kept tidy.

2.3.11

Wherever the panels to be mounted on cable trenches, channel supports have to be provided across the cable trench over which the base frame of panel shall be mounted. For such work, structural steel fabrication, installation rates shall be applicable.

2.3.12

Normally the panels shall be supplied with instruments, relays, meters, electronic modules etc. mounted and pre-wired. However, if these are supplied loose / separately for safety in transit, contractor shall mount/wire such devices as part of the panel installation work and no separate rates shall be applicable unless otherwise *specifically* listed in the rate schedule.

2.3.13

No separate payment shall be made for replacement of any devices like electronic modules, relays, conductors, terminal block, push buttons etc. which are found defective during pre-commissioning / post-commissioning of any equipment / item.

2.3.14

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

For the panels erected by other agencies, commissioning/calibration work and troubleshooting has to be carried out by the contractor as part of testing and commissioning work as per the quoted rates.

2.3.15

Minor civil works like drilling, chipping, punching holes and opening in concrete floors, slabs and brick walls, grouting, related to Rack, support installation, minor civil works required for installation of control panels, Junction boxes etc., shall be included in the erection cost of such items. Also all miscellaneous civil works like chipping away and making good as necessary in floor slab/wall for cabling / earthing etc., as required are included in the scope for which no separate payment is applicable. The scope also includes supply of grouting material, if any.

2.3.16

Supplier's instruction manuals, packing slips, door keys etc. received along with the panels should be promptly handed over to BHEL's engineer on opening of the panels.

2.3.17

While moving various equipment like control panels, control desks etc. on the finished floor or otherwise, contractor shall take adequate care not to damage floor or other things in the vicinity. For this if required suitable fork lifts or other similar means to be used for equipment movement.

2.3.18

The contractor shall perform all required services which may not be specified herein but nevertheless required for the completion of work within quoted rates.

2.4.0 Installation of cable trough (only for cabinets in the same row)

2.4.1 Various types of sheet metal, galvanised cable trough, i.e. Perforated, ladder type, seal metal duct, solid bottom tray, shall be provided in standard lengths along with accessories like hardware, bends, reducers, coupler plate, tray covers and tray clamps etc.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.4.2

Installation of cable trough shall include cutting, laying, jointing, supporting, drilling holes in the support, providing tees/reducers/bends/clamps as per route layout, fabrication of bends/tees/reducers from straight length, fixing of tray covers, welding of tray on support, cleaning and application of cold galvanising paint on weld joints (supply of paint is in the scope of contractor). *Installation of tray/duct covers, wherever provided, will be done as a part of tray erection and no extra rates will be payable.*

2.4.3

Cable troughs have to be routed over head on panels etc. for various application such as wire routings etc.

2.5.0 CABLE LAYING (PLUG-IN CABLES / COAXIAL / UTP / STP / DATA HIGHWAY, OPTICAL FIBRE)

2.5.1

Cable laying includes cutting to the required length, laying in overhead/underground cable trench/through pipes/flexible conduits, dressing/clamping in tray, drilling of holes in gland plates in panels and junction box, glanding, splicing, dressing of spliced wire inside the panel and JBs, providing PVC numerical/alphabetical / printed ferrules, termination by using crimp type copper tinned/aluminium lugs, insulated/un-insulated, termination (crimp, soldering, etc.), plug-in connections with insert type crimping, providing identification PVC/aluminium cable tags (at both the ends and at 15 m intervals throughout the route length and also at each bend), continuity checking, insulation resistance checking, high voltage test on HT cables.

Laying, etc of Optical fibre cables on cable trays /cable trench shall necessarily be done using flexible conduit.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.5.2

Entry to the panels and JB's may be at top, sides or bottom. All cables are required to be properly supported and clamped near to the JB/panel.

2.5.3

Wherever cable glanding is not possible, either due to the gland plate size limitations or more number of cable entries, prefab plug-in cables, etc., for such cases cables may have to be lifted inside the panel by either making cut-out in gland plate and providing rubber profile for sharp edge protection or alternatively, providing 4" or 6" PVC pipe coupling gland and these pipe coupling gland shall be supplied by contractor within the quoted rate of cable laying.

2.5.4

Copper tinned lugs of various types (pin, ring, fork, snap-on), PVC cable ties, PVC ferrules, PVC button and tapes, cable identification tag of PVC/metallic, clamping and dressing material with hardware, PVC sleeves etc. shall be supplied by the contractor within the quoted rates for cable laying. The quality of material shall be got approved from BHEL engineer prior to their use on job.

Contractor shall arrange suitable and adequate no. of Ferrule printing machines with all consumables for printing of Ferrules.

2.5.5

All care should be taken to avoid abrasion, tension, twisting, kinking, stretching of cables during installation.

2.5.6

Cable shielding – all signal cables are supplied with bare shielded copper wire/with braided wire shield. Generally shield wire is kept isolated at instrument/field device end and continuity is maintained through JB's and grounded at panel end only. While terminating the shield wire either in panel or JB's, PVC sleeves are to be used to avoid two-point earthing.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.5.7

Looping wire at terminal block of panels and electrical actuator, if required, as shown in the inter-connection diagrams or as required is to be done by contractor at no extra cost.

2.5.8

Contractor shall carefully plan the cutting schedule of each cable drum in consultation with site engineer such that wastage are minimised.

2.5.9

The erection contractor shall make every effort to minimize wastage during erection work. In any case, the wastage shall not exceed the following limits;

<u>Sl No.</u>	<u>Item</u>	<u>% Wastage on issued Qty</u>
1.	Fabrication steel	2
2.	Each size of power cables	1
3.	Each size of control/Inst cables	2

If however, the bidder quotes for more wastage than specified above, the excess portion will be considered for adjustment during the tender evaluation at the quoted supply rate of material.

If the actual wastage be more than the specified figure, then equivalent price of the excess portion will be deducted from the contractor's bill.

2.6.0 PRE-COMMISSIONING/ COMMISSIONING AND POST COMMISSIONING ACTIVITIES

2.6.1

The work is also inclusive of assistance during various commissioning activities of the Control Centre Instrumentation Package (CCIP). The various activities, tests, trial runs may have to be repeated till satisfactory results are obtained and also to satisfy the requirements of customer/ statutory authorities.

2.6.2

In case any malfunctioning and/or defects are found during tests, trial runs, such as loose components, undue noise or vibration, strain on connected equipments

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

etc., the contractor shall immediately attend to these defects/ malfunctions and take necessary corrective measures. If any readjustment and realignment is necessary, the same shall be done as per BHEL engineer's instructions.

2.6.3

During each stage of commissioning, if any part of the instrument needs repair/rectification/rework/replacement, the same shall be done expeditiously and promptly by the contractor. Contractor's claim, if any, for such repair/rectification/rework/replacement etc. for reasons not attributable to contractor will be governed by Section-2.15 of the general conditions of contract. The parts to be replaced shall however be provided by BHEL free of cost.

2.6.4

The pre-commissioning activities will start and various trials, commissioning operations shall continue till the unit is handed over to customer. Simultaneous commissioning activities will be in progress in various areas, like checking of equipments erected, making ready for trial runs. All these works need specialised gangs including electricians/instrument mechanics in each area. Contractor shall earmark separate manpower for various commissioning activities. This manpower shall not be disturbed or diverted.

The mobilisation of these commissioning gangs shall be such that planned activities are taken up in time and also completed as per schedule and the work undertaken round the clock if required. It is the responsibility of contractor to discuss on day to day / weekly / monthly basis the requirement of manpower, consumables, tools and tackles with BHEL engineer and arrange for the same. If at any time the requisite manpower, consumables, T&P are not arranged then BHEL shall make alternate arrangements and necessary recoveries with overhead cost will be made from the bills of the contractor.

2.6.5

Contractor shall cut open works if needed as per BHEL engineer's instructions during commissioning for inspection, checking and make good the works after inspection is over without any extra payment.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.6.6

In case any rework / repair / rectification / modification / fabrication etc. is required because of contractor's faulty erection which is noticed during commissioning or at any stage, the same has to be rectified by the contractor at his cost. If any improvement /repair /rework/rectification/ fabrication/ modification due to design improvement/ requirement is involved, the same shall be carried out by the contractor promptly and expeditiously. Claims if any, for such works from the contractor shall be governed by section-2.15 of General Conditions of Contract.

2.6.7

It is the responsibility of contractor to provide for necessary labour, tools and tackles and consumables till the completion of work under these specifications even in case erection, testing and commissioning of this work is delayed due to reasons not attributable to the contractor.

2.6.8

During commissioning activities and carrying out various tests, minor items like gauges, manometers, etc., have to be temporarily erected and put in service to suit the commissioning activities. BHEL will provide the necessary gauges and equipment. Contractor has to carry out the erection, calibration, dismantling of the same. After completion of activities the temporary systems have to be removed and returned to stores. No extra charges will be payable towards these.

2.6.9 Commissioning

During pre-commissioning, commissioning, post commissioning and trial operation stages of various systems, certain category of manpower with T&P and consumables will have to be provided to BHEL commissioning engineers exclusively at their disposal. It shall be the responsibility of the contractor to provide Engineers, Electricians, technicians, Helpers, Fitters etc along with necessary consumables, hand tools, calibration equipment etc, for the various commissioning activities in progress. During peak commissioning months there could be requirements of separate commissioning gangs simultaneously in even **upto 12 to 15 areas**. Contractor has to augment the manpower as and when required as per work demand and necessity at site. The quoted rates shall include this.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.6.10

It shall be specifically noted that contractor manpower may have to be engaged round the clock simultaneously at different areas and hence considerable number of personnel and their overtime payment may be involved. *This aspect must be considered by the contractor while quoting their rate.* No additional compensation by for the same shall be payable, irrespective of number of persons engaged or number of working hours per day.

2.6.11

For electrical works, 415 volts and above, the contractor has to bring qualified electricians.

2.6.12

Certain systems may be supplied with portable programming units, which are to be connected at various locations during pre-commissioning to handing over. Necessary cabling interconnecting the programming units and other connected panels has to be carried out by the contractor and are to be dismantled after work. For the purpose of testing, monitoring, commissioning, etc., these programming units will have to be repeatedly connected and disconnected at various locations. These will be considered as part of commissioning activities and no separate payment will be entertained for the above.

2.7.0 ERECTION, CALIBRATION, TESTING & COMMISSIONING

2.7.1

Erection, Calibration, testing & commissioning activity as specified in this technical specification and rate schedule against various equipments, devices, systems etc. are broadly classified below. However, there may be some overlapping between the activities (erection, calibration and testing, commissioning). The classification of activity is only a guideline for understanding the total volume of work in each activity. The contractor shall have no claim for performing or providing manpower for such overlapping work, which is also within the scope of the work.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.7.2 Erection

- Drawal of material from store, verification, inspection as per shipping list, drawings and documents.
- Preservation, up-keeping, safe custody of the erected equipments till handing over to the customer.
- Verification of installation as per drawing and document for the correctness of cabling, MJBs, panels, instruments etc.
- Continuity check and IR value check of cables.
- Verification of correction of cable termination with respect to instrument, electrical hook-up diagram, panel interconnection diagram, JB schedule, any other similar document
- Checking earthing of the equipments and cable shield wire continuity.

Energizing the functional group control panels and field devices

2.7.3 Calibration

- Verification after drawing of material of various types, range of the field devices with respect to instrument schedule, data sheet or system document.
- Codification of instruments as per system tag numbers
- Calibration / adjustment of instrument as per system requirement / set values.
- Verification of installation of instruments for range, type, tag number as per physical location of process point as per process, instrumentation and other similar diagrams.
- Checking and ensuring the proper function of instrument.
- All the recorders shall be made functional with proper chart movement and ink marking.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

- Preparation of computerised calibration certificates in the formats specified by BHEL Engineers and getting those signed by the customer is in the scope of the contractor.

2.7.4 Testing, Commissioning & Trial Operation

- Checking/verification of binary/analogue input and output signal from field and panel and upto recording/indicating instrument/HMI monitors.
- Checking the operating electrical/pneumatic drive through functional group panel, remote control desk, HMI, CRT operation and repeatability and smooth operation to be checked.
- Checking the interlock, protection and alarm for various processes by simulation of field devices/process changes.
- Contractor shall prepare calibration/testing report/protocols as per applicable format.
- During trial run of various systems, if the performance of any instrument/system is found erratic, un-satisfactory and requires re-adjustment, re-calibration etc., the defect shall be attended by contractor.
- Check the operation of various controls in manual/auto mode for smooth functioning or as per any other requirement
- Providing necessary assistance for Commissioning of the unit is in scope of this specification. Smooth operation and availability of all instrument/controls of the systems installed under the scope herein, shall be ensured by the contractor. Contractor shall provide adequate number of skilled manpower and T&P for this purpose.
- If any small wiring correction or minor modification in control panel wiring is noticed during the commissioning, it shall be carried out as a part of commissioning activity.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.7.5 Post-commissioning

- Contractor shall rectify the defect observed/informed by customer during the course of commissioning.
- Contractor shall submit the as-built drawing as per guidelines and instruction of BHEL engineer.

After trial run/handing over of the equipment, if due to unforeseen reasons, certain works crop up, the contractor shall provide all the assistance.

2.8.0 Facility for Planning and Monitoring

2.8.1

The work under this scope being quite sophisticated and also quite extensive, for proper planning, monitoring, reporting, etc of ongoing works, the contractor shall establish his own computer(s) and printer(s) at his site office, along with suitable operator(s), consumables, etc. *Non-establishment of above equipment will attract penalty @ Rs 10000 (Rs Ten thousand only) per month.*

BHEL uses its own software for total project execution and billing. The contractor shall provide adequate and suitable manpower for Planning, Monitoring and updating / entries into BHEL computers at site for the duration of the contract.

2.9.0 Troubleshooting during plant operation

During pre commissioning / commissioning stages when the plant will be under various stages of operation, it will be necessary to have continuous (day and night) presence of suitable manpower along with required tools to attend to any defects etc that may arise during such operation. The contractor will be required to put such personnel in shifts in both electrical and C&I area. The bidder must also take this aspect into consideration.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.10.0 Structural steel fabrication and installation

2.10.1

Structural steel material like MS angles, channels, beams, flats, plates etc. shall be supplied in running meters and same shall be used for fabrication of panel base frame, cable tray supports, canopies, instrument and junction box frames, etc.

2.10.2

This shall include cutting into size, conduiting of end connections, if required, welding, grinding of excess weld deposits, drilling of holes for mounting of device/instrument, installation at location, levelling, alignment, providing bracings, painting etc. No gas cut holes will be permitted. Contractor to follow the BHEL supplied welding schedule and welding procedures.

2.10.3

All the fabricated supports/frames shall be applied with one coat of primer red oxide paint before installation and two coat of synthetic enamel of prescribed shade of final paint,. If required, BHEL shall prescribe time gap between first and second coat of final paint. Paint, primer etc supply is in contractor's scope.

2.10.4

Frame installation/cable tray accessories' installation at site may involve mounting either on concrete floor by grouting/using anchor fasteners or on steel structure by welding etc. *All consumables including anchor fasteners shall be arranged by the contractor.*

2.10.5

In certain packages, galvanised members of junction box frames and instrument racks shall be supplied in cut to sizes and frame assemblies are required to be done as per drawing by bolting/welding. The installation rate as quoted shall include the assembling of the frames.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.10.6

Gas cutting of tray/impulse pipe support and gas cut holes in frame shall-be avoided. Only drilled hole shall be permitted in frame etc.

2.11.0 Control panels and connected devices

2.11.1

The entire work of erection, testing, commissioning of the connected devices/equipments as listed in rate schedule is to be carried out including laying of peripherals cables (either plug-in or plugs to be fabricated at site), placement of computer furniture in computer room as per lay out. The computer furniture shall be supplied either assembled or in knocked down condition, which have to be assembled at site. The quoted rate shall be inclusive of cable laying, termination and placement of furniture against each device as given in the rate schedule.

2.12.0 Field instrumentation

2.12.1

Various type of primary/secondary indicating/recording instrument for pressure, temperature, flow, level and analytical measurement shall be supplied either loose or mounted along with the equipment.

2.12.2

Scope of work under erection/calibration/testing/commissioning shall include calibration, setting, adjustment, writing instrument tag number with paint, report making, installation, servicing, minor repairs/servicing, putting instrument into service, signal checking from field upto the functional group panels and remote indicating instrument, functional checks, interlock and protection/alarm checks by simulating the field devices, trouble shooting during pre-commissioning/post-commissioning till system is handed over to the customer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.12.3

It is the responsibility of contractor to make erection, calibration/testing protocols for various C&I equipments/devices and they should get duly certified by customer/BHEL engineer and should be submitted to BHEL engineer regularly. However, sample formats will be given by BHEL and have to be printed by contractor in adequate numbers.

2.12.4

Sometimes recalibration of equipments may become necessary due to reasons not attributable to the contractor, e.g. Lapse of Time after first calibration, Need for change in range/parameter, etc. If re-calibration is required due to no fault of the contractor, the rates payable for re-calibration shall be as under:

Recalibration Charges = 60% of the Percentage Stage Payment for Calibration as per split-up defined in Terms of Payment (Chapter-7)

The contractor shall keep record of such instrument with the reason for re-calibration and certified by the BHEL Engineer.

2.12.5

For the very few cases where required, the contractor shall carry out re-orientation of bottom/top entry arrangement for process connection if needed due to site condition in existing instrument rack/enclosure/JB and re-location of existing instrument including removing of the existing tubing and re-installation of the same at appropriate location due to any change in grouping of the instrument and no extra payment shall be applicable.

2.12.6

In certain cases instruments / devices are supplied on equipment or drawn by other agencies as part of mechanical package. The same are to be received or to be collected from other agencies for keeping in safe custody to avoid damages. The same are to be erected back after calibration for which unit rate shall be applicable for erection and calibration. Contractor shall maintain record of such

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

instrument duly certified by BHEL engineer. However for removal of such instrument, no separate rate/payment shall be applicable.

2.13.0 Unit control desk and components

2.13.1 Unit control desk will be supplied in a single shipping section for erection at site.

Console Inserts shall be supplied either mounted on console grid or supplied loose. Also, the items (indicators, pushbuttons, etc.) of the console insert may be supplied mounted in the console insert or may be supplied loose. The lumpsum rates quoted for console inserts should take the above into consideration. No separate payment will be done for the erection of individual components of console inserts. However, for the other items like recorders, indicators, etc., unit rate shall be applicable. Alarm facia on the control desk may be supplied mounted or loose. Mounting these, if required, will not attract any extra payments. The commissioning of these will constitute a part of the panel commissioning from where the alarm is driven.

2.13.2

Wherever control desk / panel is not supplied by BHEL or is in customer scope of supply and installation, loose item supplied by BHEL if any, shall have to be mounted by the contractor.

2.13.3

Console/console tiles shall have plug-in/screwed/soldering/crimp snap-on, connection. Interconnecting cable between console and process control panel shall be either of pre-fabricated plug-in cable or plugs are required to be made at site with crimp insertion type of pins. BHEL shall provide plugs and any special lugs at free of cost. However, other ordinary lugs required for the work shall be arranged by contractor.

2.13.4

Generally, 0.5 sq.mm multi pair shielded cables are envisaged for console cabling. Cable may have to be terminated at different console tiles, spliced wire of individual cable need to be routed through PVC sleeves upto the plug end of the tiles.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.14.0 Final painting

2.14.1

All the fabricated frames, instrument racks, Junction box frame, trays / impulse pipes, supports, panel base frame, etc., wherever applicable shall be first painted with one coat of primer paint (metal red oxide) and then two coats of synthetic enamel paint of approved shade (decided by BHEL Engineer) after thoroughly cleaning the surface of dust, rust, scale, grease, oil, etc., by wire brushing, scrapping or any other suitable method. The quoted rates should be inclusive of all these including supply of paints and consumables.

2.14.2

Other equipments like JB's, Panels, transmitter racks, Local gauge boards etc., shall be painted with two coats of synthetic enamel paint. The quoted rates should be inclusive of application of two final coats of synthetic enamel paint. All the consumables such as wire brush, other cleaning materials, painting implements, etc., is to be arranged by the contractor at his own cost. All equipment painting will be done by spray painting. The quoted rates should be inclusive of all these including supply of paints and consumables.

2.14.3

All the weld joints of GI cable trays and GI structural members shall be applied with a coat of cold galvanising zinc paint. Paint, etc shall be arranged by contractor at his cost.

2.15.0 Misc. Other instrument/equipment erection, calibration and Commissioning.

2.15.1

Dimension and weight as mentioned against control panels etc. in rate schedule are only approximate and there may be changes in dimension and weight in actual supply of the equipment and no rate variation shall be applicable on this account.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.15.2

Wherever brief description of the system is given under various sub-heads, it is only for the understanding system requirements. It does not indicate the total specification of work. For such system, other clauses are also applicable wherein work details are specified.

2.15.3

Normally, cable glands on junction boxes side are received in mounted condition. While terminating the cables as per drawings, the cable glands are to be removed and fixed. Wherever cable glands are not received along with junction boxes, the cable glands as per the requirement will be provided by BHEL and the contractor has to make necessary holes/adjust the available holes in the JB for fixing these. No separate payment will be made for drilling of holes and fixing the cable glands to the junction boxes.

2.15.4

The push buttons and indicators in C&I systems are provided as loose with different type of connectors. The fixing of connectors and their wiring from push buttons to indicators shall be the responsibility of contractor. No separate payment will be made for fixing of connectors. The cable laying and termination charges will be paid as per applicable rate schedule.

2.16.0

VOID

2.17.0 Electrical cabling /wiring

2.17.1

All the cables will be properly laid in cable trays, dressed and clamped with aluminium flats. The cable will be terminated at both ends with suitable lugs and *printed ferrules* and will be glanded properly. **Suitable and sufficient no. of equipment and consumables for ferrule printing has to be arranged by the contractor at his own cost.**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.17.2

All electrical connections shall be tested for polarity and proper connections.

2.17.3

Insulation test of the various circuits shall be done.

2.17.4

Sharp bends of cable trough shall be avoided in all type of cable trough

2.17.5

Cable racks in the trenches and control room are to be shared with other contractors installing cables in different areas wherever required. Contractor shall cooperate with the other contractors in sharing the cable trays and proper dressing and clamping the cables.

2.17.6

Where power and control cables are to be laid in the same route, suitable barriers to segregate them physically shall be employed.

2.17.7

Space equal to the diameter of cable shall be provided between power cables of six over 50 mm in diameter.

2.17.8

When cables pass through floors, walls etc., it shall be passed through a pipe for mechanical protection and the pipe ends sealed suitably.

2.17.9

Care shall be taken to avoid short bending and kinking of conductor damaging insulation and stressing the cable beyond pulling force recommended by the manufacturer. Cable shall be protected at all times from mechanical damage.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.17.10

No cable shall be laid in ducts or trenches where other services such as oil pipes, steam or water pipes are laid.

2.17.11

The layout of all cables shall be arranged to give adequate clearance from other services and cables shall be routed to avoid hot zones.

2.17.12

The cable schedules indicating cable sizes, tentative cables routing information will be furnished by BHEL at site to the contractor.

2.18.0 Earthing of installations

2.18.1

Earthing connections shall be free from tinning scale paint, enamel, grease, rust or dirt at the time of making joint.

2.18.2

Metallic sheaths, screens/shields and armour of all multicore cables shall be bonded and earthed at a single point.

2.18.3

Earthing conductors along their run on columns, beams, walls etc. shall be supported by suitable cleats at intervals of 750 mm.

2.18.4

Welded joints on GI earthing conductors shall be coated with one coat of bituminous paint in case of buried earth grid or earth flats to be laid in cable trench. For site welded GI strips/wires which are exposed these are required to be painted with one coat of cold galvanizing zinc paint. Contractor to arrange the required paints and other items at his cost.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.19.0 Instruments and equipment

2.19.1

Racks/stands and supports for instruments and transmitters shall be fixed on RCC column/floor by chipping and grouting or by welding to steel structure. In no case these shall be welded to floor grills.

.2.19.2

During erection and commissioning stage, the site mounted instrument shall be protected suitably. Contractor shall provide suitable security arrangement in main control room, and other areas where equipments are positioned, at no extra cost.

2.19.3

Contractor shall arrange for own fire fighting equipments for the materials stored under contractor's custody.

2.20.0 Guidelines for handling and storage of electronic cubicles / subassemblies / loose items.

2.20.1

Immediately after unloading at site, the electronic equipment should be kept in a covered area. Handling and lifting of package should be done without jerks or impacts. Packing case should not be dropped or slid along the floor under any circumstances. Suitable forklift should be used to move the case to its final position. All above points are to be strictly followed as electronic equipments may get damaged due to vibration and shock.

2.20.2

After unloading at site, the package of the equipment shall be inspected for external damage. In case the package is damaged, package number and details of damage should be noted. The details of damage should be reported to concerned site engineer immediately.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.20.3

Cases should be opened/unpacked using correct nail pullers. While opening the planks, care should be taken to see that equipment inside is not damaged. Cases should not be unpacked in areas where they are exposed to rain, water/liquid splashing, dust or other harmful materials like chlorine gas, sulphur dioxide etc.

2.20.4

After opening the case, all supports provided for transport are to be removed with due care. After preliminary Inspection/testing, all cases/packages to be repacked.

2.20.5

Hinged frames should not be opened when equipment is not secured to floor as this is likely to cause it to topple over. The hinged frame can be opened only if the equipment is still fixed on to bottom wooden pallet.

2.21.0 STORAGE

2.21.1

The equipment should be Repacked ,preferably in its original package and should not be further unpacked until it is absolutely necessary for its installation or advised by BHEL engineer. The equipment should be best protected in its cases. It should be arranged away from walls.

2.21.2

The wooden pallet provided for packing itself can be retained for raised platform to protect equipment from ground damp, sinking into ground and to circulate air under the stored equipment. This will also help in lifting packing with fork-lifter.

2.21.3

Periodic inspection of silica gel placed inside the equipment is necessary. It has to be replaced or regenerated when decolourisation takes place.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.21.4

Due care should be taken to ensure that the equipment is not exposed to fumes, gases etc., which can affect electrical contacts of relays and terminal boards.

2.21.5

The storage room and the equipment should be checked at regular interval to ensure protection from termites, mould growth, condensation of water etc., which can damage the equipment.

2.21.6

All the equipments, materials and goods kept in the store room should be identified and registered in a book. Inspection report should be recorded. Any discrepancy observed should be communicated to site engineer.

2.21.7

The packing material shall be retained if the cubicle is to be repacked after inspection.

2.22.0 Handling of Sub-assemblies

2.22.1

All subassemblies should be kept in a separate place where it is easily accessible.

2.22.2

Subassemblies should have a protective cover in case it is stored without wooden packing/case to prevent accumulation of dust. Silica gel packets should also be kept along with it.

2.22.3

Subassemblies should not be stacked one above the other.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.23.0 Loose items

The loose items supplied for the main equipment falls into various categories like tools, cables, prefabricated cables, console inserts, recorders, VDU/CRT, other display units, printers, sensors and transducers, cable glands, cable ducts, frames, racks, etc. These are to be categorized and stored separately.

2.24.0 Guidelines for handling of electronic modules

2.24.1

All the modules shall be handled by qualified persons only.

2.24.2

Electronic modules should only be touched when it is absolutely essential to do so.

2.24.3

Before touching any electronic module, the operator should discharge the static electricity by earthing himself or better still, ensure constant discharge by wearing an earthed wrist strap.

2.24.4

The operator should not wear clothing made entirely from synthetic fibres, but a mixture containing at least 65% cotton.

2.24.5

The PCB should always be held by front panel or by module frame and electronic components / connectors should never be touched.

2.24.6

The electronic modules should not be placed close to television sets or CRT units.

2.24.7

Soldering irons and any other tools used must be grounded.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.24.8

All modules using CMOS components are packed in antistatic bags when transported loose to avoid ESD failures. The antistatic bags must always be used to transport modules at site from one place to the other.

2.25.0 VOID

2.26.0 VOID

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.27.0 TRAINING OF WORK FORCE

2.27.1

The contractor shall arrange induction safety training for all employees before assigning work. In addition, awareness programme, mock drill at regular intervals and daily tool box meetings shall be arranged. Monthly report of the above to be given to BHEL safety Officer as per prescribed BHEL formats

2.27.2

All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate his supervisor to coordinate and implement the safety measures.

The Contractor shall refer to Chapter IX of Special Conditions of Contract For further requirements related to Safety.

2.28.0 HOUSE KEEPING

2.28.1 Housekeeping of the assigned area/ building:

After the completion of major civil work, area/fronts will be released to the contractor in phased manner for maintaining and up keeping. While handing over the area from the civil Contractor, it will be ensured that civil works have been substantially completed. This point of time onwards till all works of the contractor in the building is completed, notwithstanding the fact that other contractors are also working in the same area; it shall be the responsibility of the contractor to maintain general cleanliness in the area assigned to him.

In order to maintain general cleanliness in the area, the contractor may take the Help/ assistance from the agencies working in the same area and he shall also extend all cooperation to other Contractors for such works. However, overall responsibility of Housekeeping of the assigned area shall lie with the contractor.

The total area allocated is approximately 20,000 square meters in the Control building covering all elevations above 106 meters(above MSL) and is spread over 2 and more floors.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.28.2 General description of work :

SL. NO.	OPERATION	MINIMUM FREQUENCY OF OPERATION
1	Cleaning and sweeping of all floors, staircase, Platform, lifts and wiping of handrails, equipment, JBs, pipes , cable shafts etc	Twice Daily
2	Wet mopping of floors	Daily
3	Vacuum cleaning of Panels, JBs, ceilings	Weekly
4	Cleaning of Glass panels, doors and polished surfaces with NPCIL approved cleaning agents	Weekly
5	Vacuum cleaning of Cable Trays	Monthly
6	Debris removal from dust bin, baskets placed in the respective building.	Daily or as and when required

2.28.3 Procedures for execution of work:

1. Cleaning and sweeping of floors, staircase, platform, anything and everything up to ceiling height and ceiling, as per the frequency indicated in the table. Cleaning activity shall start in the morning and complete all the cleaning/mopping work as per schedule to be worked out jointly at site.
2. Continuous sweeping to be done at entrance of building and cleaning/wiping of equipment and system located at various floors of the building during working hours with lunch break and tea break.
3. Removal of cobwebs, putting the collected debris other than structural materials in the dustbin kept at the specified location on every day basis. Disposal of collected structural materials with in a distance of 1.5 Km on daily basis.
4. Lifting, carrying and disposal of all generated debris such as structural pieces, cable pieces, Cable trays, ducts, wooden pieces, packing materials, piping material etc. and all other generated scrap from allotted building within a distance of 1.5 Km on daily basis
5. Disposal of debris from dust bins/baskets placed in the respective building within a distance of 1.5 Km once in a monthly basis or as and when required.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

6. In order to maintain quality service and minimize operational problems, the contractors must rotate the staff once in six months with prior written intimation to Engineer In charge.
7. The contractor shall arrange his own equipment's and tools required for this work like trolleys, Ladder , buckets, dust bins, brooms, industrial vacuum cleaner, brushes, Wiping cloths or any other Material required for the cleaning.
8. The storage and security of this material and equipment shall be the sole responsibility of the Contractor and shall have no right to claim for any loss/theft or damage of the same.
9. The exclusive work force shall be deputed for this work and work force Deployed for this General housekeeping shall not be diverted to works other than housekeeping
10. All deployed work force shall be provided with proper uniform, safety and cleaning Gears and in no case work should stop for want of gears. Uniform colour is subject to approval by M/s BHEL/NPCIL
11. Contractor shall arrange for cutting and removal of vegetation growth/grass etc in the storage yard as and when called for by BHEL as incidental to work. BHEL will take appropriate action at the risk & cost of the contractor in case of failure in this regard.

2.28.4 List of materials:

List of equipment consumables to be deployed / maintained for housekeeping work.

SL. NO.	Description	Minimum Qty. Required/available at Any given time(in nos)
1	Industrial vacuum cleaner (with wet mopping facility)	4
2	Cob webs remover	10
3	Brooms	30
4	CS Dustbin	15
5	Trolley	4
6	Ladders (3mtrs)	3
7	Waste carrying baskets	20
8	Ladders (6mtrs)	1
9	V type ladders	1
10	Cleaning brushes	30
11	Caution board (wet cleaning and cleaning in progress)	6+6

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

12	Wet and dry cleaning duster/cloths	50
13	Cleaning Agents/ Disinfectants	As required

Additional quantity of above equipment and any other item required for works shall be arranged by contractor without any extra cost.

2.28.5 Providing Work force / staff:

The contractor shall deploy adequate manpower (minimum one sweeper per 500 sq Meter of allotted area and one 'House Keeping Supervisor' for each building) at his own Account & responsibility. At the time of allotment of the area for up keeping, the name of BHEL/NPCIL-officials in charge for housekeeping, herein after referred as "Area in charge" (AIC) of the area will be conveyed to Contractor.

2.28.6 Housekeeping of BHEL Office, Stores etc. :

2.28.6.1

The Contractor shall at all time keep his work spot, site office, stores, workshops and surroundings clean and tidy from rubbish, scrap, surplus materials and unwanted tools and equipment.

2.28.6.2

Welding and other electrical cables shall be so routed to allow safe traffic by all concerned. Cables shall not be spread on floor; it shall be properly supported and clamped along the wall.

2.28.6.3

No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. BHEL/NPCIL may require the Contractor to remove any materials which are considered to be of danger or cause of inconvenience to the public. In case Contractor fails to comply with this instruction, BHEL may get the work done at the risk and cost of Contractor.

2.28.6.4

The Contractor on day to day basis shall remove from the work place all unwanted scaffoldings, surplus materials, rubbish, etc.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.28.6.5

Scope shall include services of office boy/ messenger/assistant at BHEL office and stores, for handling correspondences (dak, documents, drawings etc), and other services e.g. gardening, cleaning etc.

Approximately service – 100 service months, spread across various natures of services shall be deployed promptly as per the instruction of BHEL.

Payment for the same shall be made as per the service-month rate quoted by the bidder on pro-rata basis as at actual.

The actual requirement of manpower shall be discussed and finalized with engineer in-charge before the start of works.

2.28.7 Reporting:

- 1) The housekeeping Supervisor(s) should report daily to the AIC & take day-to-day instruction.
- 2) The Contractor shall make sure that housekeeping Supervisor(S) is necessarily available during working hours for receiving & implementing the Instructions of the AIC .
- 3) It shall be the responsibility of the Contractor to get the attendance of the housekeeping staff verified by AIC.
- 4) The weekly/fortnightly/monthly jobs should be planned by housekeeping Supervisor(s) in consultation with AIC in such a manner that these are spread over the entire week and done during office hours.
- 5) Occasional intensive cleaning shall be carried out on Sundays/ holidays as per the schedule jointly arrived at.
- 6) Proper registers/records of the jobs carried out on daily, weekly, fortnightly and monthly basis will be maintained by the housekeeping supervisor(s) and shall be submitted to AIC.
- 7) Housekeeping supervisor shall remain in his area most of the time and shall have information about agencies working/material stacked in his area. Suitable administrative procedure may be devised for the same.
- 8) All equipment deployed shall be of quality standard to NPCIL satisfaction.
- 9) Housekeeping Supervisor shall ensure non-stacking of fire hazard materials like wooden planks, drums, scaffolding materials.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II : Scope of Works

2.28.8 Unsatisfactory performance and consequence thereof:

- 1) Before commencement of job the contractor shall submit manpower list and work plan on housekeeping of respective area allotted to him and he will follow the same. Monitoring of the levels of quality of the housekeeping services shall be done on regular basis by AIC. In the event of unsatisfactory service or any failure at any time on the part of contractor as reported by AIC (who shall be the sole judge and whose decision shall be final), the Contractor shall be liable to be penalized as follows on every occasion on the sole discretion of BHEL.
- 2) Following penalties shall be imposed for Area House Keeping work:
Non deployment of housekeeping worker shall be liable for penalty of 1.5 times of the normal wage rate prevailing at site for unskilled worker per man day of absence. Absence of supervisor will be counted as two man days for this purpose.

The Contractor shall at all times ensure that his performance is satisfactory, failing which, BHEL shall be at the liberty to get the affected work done through any other agency, at the risk and cost of the Contractor and all expenses incurred on this account shall be recovered from RA bill.

2.29.0 WATCH AND WARD SERVICES:

2.29.1

Contractor shall deploy suitably qualified and separate staff for Watch and Ward services. Watch and Ward staff will be responsible for various security related activities of equipment / materials/ tools and tackles deployed by BHEL and Contractor in the area where regular work is being carried-out **and also** where equipment are already erected and further activities are in progress/pending.

They will also be responsible for security activities for BHEL's Office area and Stores are.

2.29.2.

Contractor to ensure that sufficient no. of manpower is deployed to carryout above mentioned activities on round the clock basis (24x7x365 days). Any contingency requirement due to any unforeseen reason, shall also be taken care off by contractor by arranging additional suitable man power.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – II: Scope of Works

2.29.3

It will be responsibility of the deployed work force to report to BHEL office daily (at the start of shift) and mark their presence before proceeding to the work area allotted to them by Contractor. **Contractor shall ensure that at no point of time work area in plant as well as office/stores are left unattended. Contractor to ensure that at any given point of time minimum one watch and ward staff is present at Office/Stores area and one person at the plant.**

2.29.4

It will be required for Watch and Ward staff to continuously move from one work spot to other while discharging their assigned duties. These work spot may be spread over to various floors and also buildings. Contactor to take note of this while planning for manpower deployment.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III : Facilities in the scope of Contractor/ BHEL

3.0 FACILITIES IN THE SCOPE OF CONTRACTOR/BHEL

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	ESTABLISHMENT			
3.1.1	FOR CONSTRUCTION PURPOSE:			
a	Open space for office (as per availability)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
a	Open space for labour colony (as per availability)	NO		Contractor has to make his own arrangements for shelter and transportation of labours as per their requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements	NO		Contractor has to make his own arrangements
3.2.0	ELECTRICITY			
3.2.1	Electricity For construction purposes of Voltage 415/440 V			Free
a	Single point source	Yes		At a distance of 500 M from site (Distance is only estimated, it may vary upto an extent depending on site condition)
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III : Facilities in the scope of Contractor/ BHEL

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.2	Electricity for the office, stores, canteen etc of the bidder			Electricity will be provided on chargeable basis at a rate agreed with NPCIL to be paid on monthly basis to M/s NPCIL.
a	Single point source	Yes		
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc			
a	Single point source	NO		Contractor has to make his own arrangements
b	Further distribution including all materials, Energy Meter, Protection devices and its service	NO		Contractor has to make his own arrangements
c	Duties and deposits including statutory clearances if applicable	NO		Contractor has to make his own arrangements
3.3.0	WATER SUPPLY			
3.3.1	For Construction purposes:			Free
a	Making the water available at single point	Yes		In case of inadequate supply / non-availability of construction water from customer, contractor shall have to arrange construction water at his own expenses.
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	<u>Water supply for bidder's office, stores, canteen etc</u>			
a	Making the water available at single point	YES		On chargeable basis at a rate fixed by NPCIL. To be paid on monthly basis to M/s NPCIL
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	<u>Water supply for Living Purpose</u>			
a	Making the water available at single point	NO		Contractor has to make his own arrangements for source of water

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III : Facilities in the scope of Contractor/ BHEL

Sl.No	Description PART I	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution as per the requirement of work including supply of materials and execution	NO		
3.4.0	LIGHTING			
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3 At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	Contractor has to make his own arrangements
3.5.0	COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER			
a	Telephone, fax, internet, intranet, e-mail etc		Yes	
3.6.0	COMPRESSED AIR wherever required for the work		Yes	
3.7.0	Demobilization of all the above facilities		Yes	It is contractor's responsibility to demobilize all offices, canteen, storage area and make the area clean and free from debris etc. after completion of work.
3.8.0	TRANSPORTATION			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III : Facilities in the scope of Contractor/ BHEL

SI.No	Description PART II 3.9.0 ERECTION FACILITIES	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.1	Engineering works for construction:			
a	Providing the erection drawings for all the equipments 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- example – routing of small bore pipes		YES	"
d	Shipping lists etc for reference and planning the activities	Yes		"
e	Preparation of site erection schedules and other input requirements		Yes	"
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	"
g	Weekly erection schedules based on SI No. e		Yes	"
h	Daily erection / work plan based on SI No. g		Yes	"
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are 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	Arranging the materials required for preassembly		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

4.0 T&PS AND MMES TO BE DEPLOYED BY CONTRACTOR

A: TOOLS & PLANTS

List of major testing & measuring equipments/ tools and tackles to be arranged/ brought by contractor.

SN	Description	Minimum Quantity
I. Major T&P		
1	Uncrating tool	As per reqmt
2	Chain pully	As per reqmt
3	Skid roller	As per reqmt
4	Fork lift	As per reqmt
5	Crane	As per reqmt
6	Screw Driver	As per reqmt
7	Watch maker Screw Driver Set	As per reqmt
8	Combination Plier	As per reqmt
9	Side cutter	As per reqmt
10	Adjustable Spanner	As per reqmt
11	Allen Key Set	As per reqmt
12	Hacksaw frame Mini and Big	As per reqmt
13	SS Scale 30 cm and 100 cm	As per reqmt
14	Soldering Iron	As per reqmt
15	De-Soldering Pump	As per reqmt
16	Scissors	As per reqmt
17	Drill bit H.S.S	As per reqmt
18	Files (different sizes)	As per reqmt
19	Magnet	As per reqmt
20	Dental mirror	As per reqmt
21	Hand and Bench Vice	As per reqmt
22	Nose Pliers	As per reqmt
23	Feller Gauge	As per reqmt
24	Hand Tap sets	As per reqmt
25	Component organiser and Bins	As per reqmt
26	Godrej lock	As per reqmt
27	Nylon Mallet Hammer	As per reqmt
28	Spirit Level	As per reqmt
29	Plum Bob	As per reqmt

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

SN	Description	Minimum Quantity
30	Hammer	As per reqmt
31	Tool Box	As per reqmt
32	Dee Spanner	As per reqmt
33	Changeable display Board	As per reqmt
34	Dowell Crimping Tool	As per reqmt
35	Argon/Oxygen/Acetylene/Nitrogen/Helium regulator	As per reqmt
36	Reamer	As per reqmt
37	Double ended Ring Spanner	As per reqmt
38	Pipe Wrench	As per reqmt
39	Tin cutter	As per reqmt
40	Line Tester	As per reqmt
41	Lubrication Oil Can	As per reqmt
42	Drill Machine	As per reqmt
43	Hot air blower, Hot air Gun	As per reqmt
44	Angle grinder	As per reqmt
45	Digital temperature cum Humidity meter	As per reqmt
46	Cylinder Opening Key	As per reqmt
47	Torque Screw Driver	As per reqmt
48	Computer based Sleeve Printing Machine with all consumables	As per reqmt
49	General Ladder, A Type Ladder	As per reqmt
50	Special Tools and Test Equipments required for Special cable including OFC , UTP etc.	As per reqmt
51	Digital Multimeter	As per reqmt

Note:

The list of instruments / equipments to be brought by the contractor as shown above is only indicative. Any other instruments and equipment required for the execution of the work is to be necessarily arranged by the contractor. The testing/calibration instruments that are used shall be duly calibrated in the interval prescribed by BHEL engineer from the BHEL approved agencies. And test certificate to be furnished. The list does not include any specific electronic item required for commissioning of Computer Based System and other electronics covered.

It is the responsibility of bidder to timely make available required nos. of suitable T&Ps. At no point of time work schedule shall get affected due to non-availability of required T&Ps.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

B- CONSUMABLES

The following materials/consumables are to be arranged by the contractor as part of the contractual scope.

S.No.	ACTIVITY	CONSUMABLE ITEMS
01	Installation of Panels/Racks/Consoles/Field Multiplexing Units (FMUs)	<ol style="list-style-type: none"> 1. Welding Electrodes 2. Welding Machine accessories 3. Gas Cutting Set and Accessories 4. Gases : Acetylene/Oxygen 5. Hand Gloves 6. Grinding Wheel 7. Emery paper of different Sizes 8. Filler Wire 9. Paint Brush 10. Hilti Bolt/Fisher Anchor (Seismically qualified and approved type) 11. Drill bits of different sizes 12. Spray equipment and accessories 13. Penetrating Testing material 14. Sand Paper 15. Wire Brush (hand and motor driven) 16. Red Oxide/Thinner 17. Paints : Enamel,Epoxy,Aluminium and Amarcoat etc.
02	Wire Terminations	<ol style="list-style-type: none"> 1. PVC Ties 2. Insulation Tapes 3. GI Clamps 4. Free Wheeling Diode 5. Power Supply extension board 6. Ribbon for Sleeve typing machine 7. Black Sleeve 8. Heat Shrinkable Sleeve of different sizes and colour. 9. PVC wire nos. Sleeve of Yellow, White, Red, Sky Blue, Green colour 10. Solder wire (General and for CTM system use) 11. Flux 12. Insulated Copper Lugs of different sizes (U, Ring, Pin type)

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

03	Cleaning for Contact/Rust	<ol style="list-style-type: none">1. Contact cleaner2. Rustolene3. Lubricant4. Grease
04	General	<ol style="list-style-type: none">1. Torch with Cell2. Measuring Tape3. M-Seal4. Colin Cleaner

PI note: The above list is only indicative. The contractor to arrange consumables as required as per scope of contract.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IV : T&Ps and MMEs to be deployed by Contractor

BLANK SHEET

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter –V : T&Ps and MMEs to be deployed by BHEL on sharing basis

5.0 T&PS AND MMES TO BE DEPLOYED BY BHEL ON SHARING BASIS

List of T&P/instruments and consumables that will be made available by BHEL free of hire charges (on sharing basis).

01	NIL	
----	------------	--

Note

Above T&P will be provided for specific erection/commissioning activities wherein these equipment will be required. While taking delivery, contractor shall check for proper working of the equipment and the same shall be returned after the work is completed to BHEL stores in good working condition subject to normal wear and tear.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

6.0 TIME SCHEDULE AND MOBILIZATION:

6.1 TIME SCHEDULE & MOBILIZATION

6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

CONTRACTOR SHALL REACH SITE, MAKE HIS SITE ESTABLISHMENT AND BE READY TO COMMENCE THE WORK **WITHIN TWO WEEKS** FROM THE DATE OF FAX LETTER OF INTENT (LOI) OR AS PER DIRECTIONS OF CONSTRUCTION MANAGER OF BHEL.

THE CONTRACTOR HAS TO SUBSEQUENTLY AUGMENT HIS RESOURCES IN SUCH A MANNER THAT THE ENTIRE WORK IS COMPLETED TO ACHIEVE THE FOLLOWING TENTATIVE SCHEDULE:

MAJOR MILESTONE FOR KAPP Unit-3

SL No.	Milestones	E&C START DATE	E&C END DATE
1	SAFETY TEST & MONITORING SYSTEM (STMS)	OCT'13	DEC'15
2	REACTOR CONTROL & MONITORING SYSTEM (RCMS)	OCT'13	DEC'15
3	REACTOR PROCESS CONTROL & MONITORING SYSTEM (RPCMS)	OCT'13	DEC'15
4	CONTAINMENT, VENTILATION AND COMMON SERVICES, CONTROL AND MONITORING SYSTEM (CVCSCMS)	OCT'13	DEC'15
5	DIGITAL RECORDING SYSTEM (DRS), RADIATION DATA ACQUISITION SYSTEM (RADAS)	OCT'13	DEC'15
6	RADIATION DATA ACQUISITION SYSTEM (RADAS)	OCT'13	DEC'15
7	ELECTRICAL SUPERVISORY CONTROL AND DATA ACQUISITION (ESCADA)	OCT'13	DEC'15
8	PERSONAL CONTAMINATION INFORMATION SYSTEM (PCIS)	OCT'13	DEC'15
9	FUEL HANDLING CONTROL COMPUTERS	OCT'13	DEC'15
10	EMERGENCY TRANSFER SYSTEM (EMTR)	OCT'13	DEC'15
11	MAIN ANNUNCIATION SYSTEM PANELS (MAS)	OCT'13	DEC'15
12	BEETLE MONITORING SYSTEM (BMS)	OCT'13	DEC'15

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

13	FUEL HANDLING MAIN CONTROL ROOM PANELS, OPERATOR CONSOLES, FUELING MACHINE AND SIMULATOR PANEL	OCT'13	DEC'15
14	FUEL HANDLING CONTROL CABINETS, FIELD ISOLATION RELAYS, SOLENOID DRIVERS	OCT'13	DEC'15
15	MANUAL AND SAFETY LOGIC (M&SAL) PANELS	OCT'13	DEC'15
16	LVDT TRIP UNITS FOR FUEL HANDLING CONTROLS	OCT'13	DEC'15
17	SHUT DOWN SYSTEM#1 (SDS#1)	OCT'13	DEC'15
18	SHUT DOWN SYSTEM#2 (SDS#2)	OCT'13	DEC'15
19	MAIN AIRLOCK SYSTEM AND AUX. AIRLOCK SYSTEM	OCT'13	DEC'15
20	ECCAS ALARM SYSTEM (EAS) AND LOGIC RELAY PANEL	OCT'13	DEC'15
21	PHT INSTRUMENT PANEL	OCT'13	DEC'15
22	LOGIC RELAY PANELS	OCT'13	DEC'15
23	CONTAINMENT ISOLATION SYSTEM (CIS) AND CONTAINMENT SPRAY SYSTEM (CSS)	OCT'13	DEC'15
24	ADJUSTER RODS & CONTROL RODS (AR/CR) CONTROL SYSTEM	OCT'13	DEC'15
25	FIELD FUEL MONITORING (FFM) AND DATA COLLECTION PANELS	OCT'13	DEC'15
26	CLASS II 240VAC MAIN CONTROL CENTER POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15
27	CLASS III 240VAC MAIN CONTROL CENTER POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15
28	24V DC MAIN CONTROL CENTRE POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15
29	220V DC MAIN CONTROL CENTRE POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15
30	240 VAC BACKUP CONTROL CENTRE POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15
31	24 VDC BACKUP CONTROL CENTRE POWER SUPPLY DISTRIBUTION PANELS	OCT'13	DEC'15

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

32	MAIN CONTROL ROOM PANELS	OCT'13	DEC'15
33	OPERATOR CONSOLES	OCT'13	DEC'15
34	BACKUP CONTROL ROOM PANELS	OCT'13	DEC'15
35	CONTROL DISTRIBUTION FRAME (CDF) 5 BAY MODULE	OCT'13	DEC'15
36	BUFFER TERMINAL CABINETS (BTC)	OCT'13	DEC'15
37	N-16 AND O-19 MONITORING PANELS	OCT'13	DEC'15
38	SIMULATOR MAIN CONTROL ROOM PANELS (MCRPs)	OCT'13	DEC'15
39	SIMULATOR OPERATOR CONSOLES	OCT'13	DEC'15
40	SIMULATOR BACKUP CONTROLROOM PANELS	OCT'13	DEC'15
41	SIMULATOR MCB STATUS MONITORING SYSTEM	OCT'13	DEC'15
42	FUEL HANDLING MAIN CONTROL ROOM PANELS, OPERATOR CONSOLES FOR SIMULATOR	OCT'13	DEC'15
43	NETWORK COMPONENTS AND MOUNTING CABINETS	OCT'13	DEC'15
NOTE : ERECTION AND COMMISSIONING SCHEDULE FOR KAPP-4 WILL BE SIX MONTHS LATER THAN KAPP-3			

6.1.2 Contract Period

The Contract period shall be for 30 months from the start of work. Erection, Testing, Calibration and Commissioning of permanent equipments required for completion of system shall be completed within the time schedule given above.

BHEL, owing to its commitment to their customer, may ask contractor to compress the total completion schedule by upto 15%. This will result in

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VI : Time Schedule

advancement of various milestones. Contractor shall plan his activities and mobilize additional resources accordingly to the satisfaction of BHEL engineer within the quoted rates.

6.2

The contractor should reach site and establish his site office and mobilize to commence the work as per directions of BHEL engineer. The date of starting the work at site shall be fixed in consultation with BHEL's engineer and the same will be recorded in measurement book while entering the first RA bill.

6.3

Subject to availability of materials and other inputs, it is the responsibility of the contractor to carry out work to achieve the monthly progress and keep up the schedules.

6.4

Contractor shall draw the monthly erection program along with BHEL engineer indicating the work to be achieved and event to be completed. Once the program is drawn, he shall adhere to the same. Contractor shall plan and erect the materials as it is received at site. The monthly planned percentage shall take into consideration the material available at site before the start of the month and also any material received during the month. Contractor shall mobilize his resources required to achieve the monthly programs.

6.5 DEFINITION OF WORK COMPLETION

The contractor's scope of work under these specifications will be deemed to have been completed in all respect, only when all the activities are completed satisfactorily and so certified by BHEL site in charge. The decision of BHEL in this regard shall be final and binding on the contractor

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – VII : Terms of Payment

7.0 TERMS OF PAYMENT

The progressive payment for erection, testing and commissioning on accepted price of contract value for C&I Package rates will be released as per the break up given hereinafter:

TERMS OF PAYMENT FOR C&I

Sl. No.	Activity/Work Description	% of unit rate
A	Main E&C Equipments/Items	
I	PRO RATA PAYMENTS (85%)	
1.0	Cable trough and accessories	
1.1	Fabrication and fixing/welding/bolting in position	60%
1.2	Earthing of cable trays	15%
1.3	Tagging of cable trays (painting cable tray numbers on sides)	5%
1.4	Covering of trays where ever envisaged	5%
	Total =	85%
2.0	Cable/Wire laying (Control/Signal/LAN Cables/Wires)	
2.1	Laying of cables/Wires	45%
2.2	Termination and tagging of cables/Wires	15%
2.3	Dressing and clamping of cables/Wires	10%
2.4	Shielding of cables	5%
2.5	Testing and charging of cables/Wires	10%
	Total =	85%
3.0	Junction box/Push button station (local)	
3.1	Erection including fixing of terminal blocks where ever applicable	75%
3.2	Name plate fixing where ever applicable , Labelling (both inside and outside) and Commissioning of connected equipment	10%
	Total =	85%
4.0	Miscellaneous Structural steel including frames for Panels/Racks/Instruments, supports for cable tray/pipes/tubes, Canopies etc	
4.1	Fabrication, Erection, Alignment , Welding/bolting and where ever applicable chipping/grouting/painting	65%
4.2	Erection of associated Items/Equipments/Systems as applicable	20%
	Total =	85%
5.0	Panels/Cubicles/Desks/Racks/Enclosures/Monitors/Computers/Computer peripherals	
5.1	Receipt, Unloading, Inspection ,Repacking and Storage	5%
5.2	Installation of Equipment	10%
5.3	Fixing of loose items/instruments where ever applicable	5%

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – VII : Terms of Payment

5.4	Termination of field wiring	20%
5.5	Pre-Commissioning checks, Integration, Testing and Commissioning	30%
5.6	Implementation of ECNs/FCNs and Design Modifications	10%
	Total =	85%
6.0	Instruments/Devices including Sensors/Cells/Probes/Transmitters etc	
6.1	Calibration/Testing/Pre erection checks	30%
6.2	Erection/Placement and fixing of loose items/accessories	30%
6.3	Pre commissioning checks/loop testing/Simulation testing as required	10%
6.4	Remote/local commissioning as required	15%
	Total =	85%
7.0	Miscellaneous items (items not covered under above heads)	
7.1	Erection	50%
7.2	Alignment	10%
7.3	Testing	15%
7.4	Completion	10%
	Total =	85%
8.0	Services for Stores Management	
8.1	Submission of Monthly Bill along with attendance certificate by M/s BHEL. Engineer of the deployed manpower	100%
9.0	VOID	
10.0	VOID	
11.0	Housekeeping	
11.1	Receipt of Monthly supply of consumables at Contractors stores	20%
11.2	Submission of Monthly Bill along with Attendance certificate by AIC of various Manpower deployed and Satisfactory completion of work	80%
12.0	Watch and Ward Services	
12.1	Submission of Monthly Bill along with attendance certificate by BHEL Engineer of the deployed manpower	100%

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – VII : Terms of Payment

13.0 Deployment of Manpower for NPCIL's use

- 13.1 Submission of Monthly Bill along with attendance certificate by M/s NPCIL indicating no. of Man days worked for each category ie. Engineer, Supervisor, Technician and Draftsman. **100%**

II	STAGE/MILESTONE PAYMENTS (15%)	% of unit rate
1	Submission of "Erection Completion Certificate" by M/s NPCIL	7%
2	Area cleaning, temporary structures cutting/removal and return of scrap	1%
3	Punch List points/pending points liquidation	1%
4	Material Reconciliation	1%
5	Demobilization of Contractor's Office/Canteen/Work area and removal of all debris/scrap and disposition of same is the specified location	1%
6	Completion of Contractual Obligation	4%
	Total for Milestone/Stage payments (15%)	15%

B OTHERS

- 1 Laboratory Instruments installation and demonstration where ever applicable **100%**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII : Taxes and Duties

8.0 TAXES, DUTIES, LEVIES

8.1.1

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.

8.1.2 Service Tax & Cess on Service Tax

The price quoted shall be exclusive of Service Tax(ST). The ST, as statutorily leviable and payable by bidder under the provisions of ST Law/Act shall be paid by BHEL as per Bidder's claim through various Running Bills.

Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor has to mention in their RA Bill service tax registration number and registration certificate should also bear the endorsement for the premises from where the billing shall be done by bidder on BHEL for this project. Contractor shall furnish a declaration of payment of Service Tax for the Service Tax amount claimed. Contractor shall submit serially numbered Service Tax and Cess Invoice, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely,

- I. The name, address and the registration number of the contractor,
- II. The name and address of the party receiving taxable service,
- III. Description, classification and value of taxable service provided and,
- IV. The service tax payable thereon.

All the four conditions shall be fulfilled in the invoice before release of service tax payment.

Contractor shall obtain prior written consent from BHEL before billing the amount towards such taxes.

With introduction of Cenvat Credit Rules 2004, which came into force w.e.f. 10.09.2004, Excise Duty paid on Input Goods including Capital Goods and Service Tax paid on Input Services that are used for providing the output services can be taken credit of against the Service Tax payable on output services. However BHEL may opt for availing the abatement provision in which case cenvat credit may not be available on input duty.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – VIII : Taxes and Duties

8.1.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be **inclusive** of the same. In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. The contractor has to take all necessary steps to **minimize tax on input goods** by purchasing the materials from any registered dealer of the concerned state only. In case contractor opts for composition, it will be with the prior express consent of BHEL. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.

8.1.4 Modalities of Tax Incidence on BHEL

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will 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. **In this regard, BHEL may opt for Bifurcation of the work into multiple work orders.** 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.

8.1.5 New Taxes/Levies

In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, 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.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

8.1.6 Submission of Periodical Reports

Contractor shall submit periodical reports in respect of following aspects of operation:

- 1) Consumption of welding electrodes and gases
- 2) Consumption of construction power

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII : Taxes and Duties

- 3) Manpower reports
- 4) Daily and Monthly Progress reports
- 5) Field calibration reports

BHEL at site will inform formats for these reports.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – IX : Specific Inclusions

9.0 SPECIFIC INCLUSIONS:

Consumables/items to be provided by BHEL free of charge :

NIL

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-X : Special Exclusions

10.0 Exclusions

NIL

Note:

The aforesaid exclusions should not be construed as exhaustive. They are meant for general guideline. BHEL reserves the right to include or exclude any item which is required for completing the job as per rates indicated in rate schedule. Contractor should carry out all such jobs as per the instructions of BHEL engineer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-I : Technical details & BOQ

Annexure- I

Details (wherever required) of items listed in the rate schedule

Please Note:

1. All the items in general are to be erected and commissioned by the contractor, unless specifically mentioned otherwise.
2. In such cases where systems are described with component quantities, lump sum rates are to be quoted. No separate payment will be made for the component items of those systems, although these systems may have certain items for which separate unit rates are also available elsewhere.
3. The dimensions and weights mentioned are only approximate. No extra claims will be entertained due to change in dimensions/weight.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
1	MAS Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT - 450KG (APPROX) Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage	8	CONTROL EQUIP ROOM	4	4			1	
1.1	Transportation from stores and Installation of Panels								
1.2	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
2	BTC Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT - 450KG (APPROX.) Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage	8	CONTROL EQUIP ROOM	4	4			1	
2.1	Transportation from stores and Installation of Panels								
2.2	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
3	CPSD Panels (Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700 KG (APPROX.) Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage	26	CONTROL EQUIP ROOM	13	13			2	
3.1	Transportation from stores and Installation of Panels								
3.2	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
4	CDF -5 Bay (Frame Size: 1090 X 800 X 2294 mm) WEIGHT- 600KG (APPROX.)	16	VARIOUS PLACES	8	8				

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
4.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								1.5
4.2	Transportation from stores and Installation of Panels								
4.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
5	MCRP Panels (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	8	CONTROL EQUIP ROOM	4	4				1
5.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
5.2	Transportation from stores and Installation of Panels								
5.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
6	MCRP PANELS PL-1 TO 3, LVS, SIMULATOR (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	9	CONTROL EQUIP ROOM	6	3				1.5
6.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
6.2	Transportation from stores and Installation of Panels								
6.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
7	Fuel Handling MCRP, Fuelling Machine Simulator Panels and Operator Console (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	9	MAIN CONTROL ROOM	6	3				1.5
7.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
7.2	Transportation from stores and Installation of Panels								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
7.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
8	FHC & SIMULATOR PANELS(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	47	MAIN CONTROL ROOM	30	17				3
8.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
8.2	Transportation from stores and Installation of Panels								
8.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
9	STMS Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	52	CONTROL EQUIP ROOM	26	26				3
9.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
9.2	Transportation from stores and Installation of Panels								
9.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
10	RCMS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	58	CONTROL EQUIP ROOM	29	29				3
10.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
10.2	Transportation from stores and Installation of Panels								
10.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4										Dt. 27/8/13
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)		
11	RPCMS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	76	CONTROL EQUIP ROOM	38	38			3.5		
11.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage									
11.2	Transportation from stores and Installation of Panels									
11.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration,Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications									
12	CVCSMS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	52	CONTROL EQUIP ROOM	26	26			3		
12.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage									
12.2	Transportation from stores and Installation of Panels									
12.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications									
13	PIS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	68	CONTROL EQUIP ROOM	34	34			3.5		
13.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage									
13.2	Transportation from stores and Installation of Panels									
13.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications									
14	FHCC Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	14	CONTROL EQUIP ROOM	7	7			1.5		
14.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage									
14.2	Transportation from stores and Installation of Panels									

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
14.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
15	EMTR Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	30	CONTROL EQUIP ROOM	15	15				
15.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
15.2	Transportation from stores and Installation of Panels							2	
15.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
16	MAS (Balance) Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	12	CONTROL EQUIP ROOM	6	6				
16.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
16.2	Transportation from stores and Installation of Panels								1.5
16.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
17	BMS(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	2	CONTROL EQUIP ROOM	1	1				
17.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
17.2	Transportation from stores and Installation of Panels (including installation of 200nos Beetles/unit at various locations in the plant)								0.5
17.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
17.4	Installation of Beetles (200 nos per Unit) Total 400 nos for both units to be installed at various places in the plant								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
18	SDS #1 Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.) 18.1 Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage 18.2 Transportation from stores and Installation of Panels 18.3 Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications	16	CONTROL EQUIP ROOM	8	8			1.5	
19	SDS #2 Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.) 19.1 Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage 19.2 Transportation from stores and Installation of Panels 19.3 Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications	18	CONTROL EQUIP ROOM	9	9			1.5	
20	MAIN AIRLOCK SYSTEM & AUXILIARY AIR LOCK SYSTEM (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.) 20.1 Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage 20.2 Transportation from stores and Installation of Panels 20.3 Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications	12	CONTROL EQUIP ROOM	6	6			1	
21	ECCS ALARM SYSTEM (EAS) & LOGIC RELAY PANEL (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	30	CONTROL EQUIP ROOM	15	15				

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
21.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage							2	
21.2	Transportation from stores and Installation of Panels								
21.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
22	PHT INSTRUMENT PANEL (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	4	CONTROL EQUIP ROOM	2	2			0.5	
22.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
22.2	Transportation from stores and Installation of Panels								
22.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
23	LOGIC RELAY PANELS (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	10	CONTROL EQUIP ROOM	5	5			1.5	
23.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
23.2	Transportation from stores and Installation of Panels								
23.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
24	CIS & CSS (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	12	CONTROL EQUIP ROOM	6	6			1.5	
24.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
24.2	Transportation from stores and Installation of Panels								
24.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
25	AR/CR CONTROL SYSTEM (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	4	CONTROL EQUIP ROOM	2	2				0.5
25.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
25.2	Transportation from stores and Installation of Panels								
25.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
26	FFM MANUAL DATA COLLECTION PANEL(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	2	CONTROL EQUIP ROOM	1	1				0.5
26.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
26.2	Transportation from stores and Installation of Panels								
26.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
27	CPSDP (BALANCE PANELS) (Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700KG (APPROX.)	68	CONTROL EQUIP ROOM	34	34				3
27.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
27.2	Transportation from stores and Installation of Panels								
27.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
28	BACK UP CONTROL ROOM PANELS(Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700KG (APPROX.)	12	BACKUP CONTROL EQUIP ROOM	6	6				1.5
28.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
28.2	Transportation from stores and Installation of Panels								
28.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
29	CDF (BALANCE) (Panel Size: 1100 X 600 X 2300 mm)	20	FIELD/MARSHAL LING	10	10			1.5	
29.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
29.2	Transportation from stores and Installation of Panels								
29.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
30	BTC (BALANCE) (Panel Size: 800 X 900 X 2200 mm)	38	FIELD/MARSHAL LING	19	19			2	
30.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
30.2	Transportation from stores and Installation of Panels								
30.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
31	N-16 and O-19 Monitoring Panel(Panel Size: 800 X 900 X 2200 mm)	2	CONTROL EQUIP ROOM	1	1			1	
31.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
31.2	Transportation from stores and Installation of Panels								
31.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	DI. 27/8/13	Indicative % of Max. price (% of total price)
32	Installation of Consoles (1300 W X 650 D X 800/1200 H mm)	64	MAIN CONTROL ROOM	32	32			2	
33	Installation of Consoles (1300 W X 650 D X 800/1200 H mm) FOR SIMULATOR	29	BACKUP CONTROL ROOM	29	0			1	
34	Installation of filler panels in Main Control Room and Simulator Room by bolting or welding for Main Control Room Panels(MCRPs) and Consoles (In between the MCRPs, Consoles where ever required and between MCRPs and false ceiling) including supply of all accessories, consumables, welding materials, bolts.	300 SQ.MTR	MAIN CONTROL ROOM	150	150			1	
35	Installation of MS trough (C-type channel 180 mm W x 112 mm H) by bolting or welding for control equipment room panels (In between the rows of panels where ever required) including supply of all accessories, consumables, welding materials, Bolts.	400 M	CONTROL EQUIP ROOM	200	200			1	
36	Mounting of Operator Work Stations (OWS)/ Engineering Work Stations (EWS) (consisting of PC, monitor, keyboard etc.) in consoles	184	VARIOUS PLACES	92	92			1.5	
37	Installation of network switches on wall / in panels including supply of all accessories, consumables, welding materials, Hilti Bolt/ Fisher anchor.	190	VARIOUS PLACES	95	95			1	
38	Installation of printers on printer table	25	VARIOUS PLACES	13	12			0.5	
39	Laying of cross connection wires for Control Distribution Frame (CDF)	100000		50000	50000			2.5	
40	Laying of cross connection wires for Buffer Terminal Cabinet (BTC) and inter/intra panel wires including tinning of both ends of the wire	100000		50000	50000			2	
41	LAN Cables	64KM		32KM	32KM				

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
41.1	Receipt of Cables, Unloading, Unpacking, Inspection, Re-packing and Storage							2	
41.2	Laying of LAN cable								
42	Termination of wires including supply of consumables like various types of lugs, solder wire as per requirement. and wire identification sleeve suitable for thermal printing including printing of terminal nos./wire nos.								
42.1	Screwed terminations/screw/less spring clamp connections without lugs	760000		380000	380000				
42.2	Screwed terminations with lugs	55000		27500	27500				
42.3	Soldered terminations	50000		25000	25000				
42.4	Connectorisation (Numbers of soldered termination on various types of connectors)	25000		12500	12500				
42.5	RJ-45 connectorisation	4700		2350	2350				
43	Optical Fiber Cable	80KM		40KM	40KM				2
43.1	Receipt of Cables, Unloading, Unpacking, Inspection, Re-packing and Storage alongwith Accessories(Conduits/GI Pipes)								
43.2	Laying of Optical Fiber Cable in Conduits/GI Pipes								
44	Terminations of Optical Fiber Cable (OFC) (each fibre) including identification sleeves and supply of consumables. Connectors will be supplied by BHEL	3700		1850	1850				2
45	Installation of 19 inch rack mountable bins & connector panel for start up instrumentation system and their wiring upto terminal block/ inter bin wiring in control panels	58		29	29			0.5	
46	Preparation & Issue of As-Built drawings (ED, WD, TL etc.) including corrections using AUTOCAD, Printing, Xeroxing etc. of required no. of copies								1
46.1	A0 size	50		25	25				
46.2	A1 size	300		150	150				
46.3	A2 size	50		25	25				
46.4	A3 size	500		250	250				
46.5	A4 size	600		300	300				

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-I : Technical details & BOQ

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4										Dt. 27/8/13
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)		
47	Engineer (BE with 2-3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	350 MAN DAYS		175	175					
48	Supervisor (Diploma with 3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	150 MAN DAYS		75	75			5		
49	Technician (ITI with 3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	700 MAN DAYS		350	350					
50	Draftsman (with 3 years of experience) for NPCIL's use	150 MANDAYS								
51	Other items to be received,inspected,repacked,stored, transported and mounted/erected									
	WEIGHT - 50 KGS. EACH(APPROX)									
51.1	PHT Pumps condition monitoring system-1	2		1	1				1	
51.2	Seal Leak Monitoring and Analysing device-1	2		1	1					
51.3	PHT Pumps condition monitoring system-2	2		1	1					
51.4	Seal Leak Monitoring and Analysing device-2	2		1	1					
51.5	Neutronic Alarm Unit for SDS-1 and SDS-2	12		6	6					
51.6	Power Supply Unit for Neutronic Alarm Unit for SDS-1 and SDS-2	12		6	6					
51.7	Regional Over-power Protection Amplifier Unit for SDS-1 and SDS-2	24		12	12					
51.8	Hand Switches for Reactor Trip	6		3	3					
51.9	OLTC Tap Position Indicator	8		4	4					
51.10	Startup Dolly Connector Panel	2		1	1					
51.11	ICA for Backup Control room	2		1	1					
52	MATERIAL MANAGEMENT SERVICE									
52.1	Store Keeper (Diploma)	30 Manmonths		30 Manmonths						
52.2	Computer Operator (Diploma)	30 Manmonths		30 Manmonths						
52.3	Assistants	120 Manmonths		120 Manmonths						
53	PLANNING SERVICE									

REV 00

27th Aug
2013

Volume - 1B SPECIAL CONDITIONS OF CONTRACT (SCC)

(Document No BHEL:EDN:CCIP:C&I:SCC REV.00
Dt 27/08/13)

**BHARAT HEAVY ELECTRICALS LIMITED
ELECTRONICS DIVISION, BANGALORE**



SPECIAL CONDITIONS OF CONTRACT (SCC)

Contents

SN	DESCRIPTION	Chapter	
1	General Intent of the Specifications	Chapter-I	
2	General Services to be rendered by the Bidder	Chapter-II	
3	General Technical Requirements (Codes and Standards)	Chapter-III	
4	Obligations of Contractor (In respect of Tools, Tackles, Consumables, etc employment of supervisory staff and workmen)	Chapter-IV	
5	Responsibilities of Contractor (In respect of employment of Labour, Supervisory staff, etc)	Chapter-V	
6	Material Handling, Storage, Preservation, etc	Chapter-VI	
7	Drawings and Documents	Chapter-VII	
8	Inspection and Quality	Chapter-VIII	
9	HSE & OHSAS Obligations	Chapter-IX	
10	RA Bill Payment	Chapter-X	
11	Performance Monitoring	Chapter-XI	
12	Suspension of Business Dealings	Chapter-XII	

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.0	INTENT OF THE SPECIFICATION
1.1	The intent of this erection and commissioning specification is to provide services for execution of the project according to most modern and proven techniques and codes. The omission of specific reference to any method, equipment or material necessary for the proper and efficient services towards installation of the plant shall not relieve the contractor of the responsibility of providing such services / facilities to complete the work or portion of work awarded to him. The quoted / accepted rates / price shall deem to be inclusive of all such contingencies.
1.2	The work shall conform to dimensions and tolerances given in various drawings and documents that will be provided during erection. If any portion of works is found to be defective in workmanship and not conforming to drawings / documents or other stipulations, the contractor shall dismantle and re-do the work duly replacing the defective materials at their own cost, failing which recoveries, as determined by BHEL, shall be effected from contractor's bills.
1.3	It is not the intent of this specification to specify herein all the details of erection and commissioning. However, the system shall conform in all respects to high standards of quality and workmanship for performing the required duties in a manner acceptable to purchaser who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgments is not in full accordance herewith.
1.4	The omission of specific reference to any fabrication / erection or other method, equipment or material necessary for proper and efficient working of the plant shall not relieve the tenderer of the responsibility of providing such facilities to complete the work at quoted rates. Any mismatch/ defect found due to mistake in fabrication / erection shall have to be rectified by the vendor free of cost. Inspection by BHEL/Customer does not relieve vendor of his responsibility of executing quality erection.
1.5	The work covered under this specification is of highly sophisticated nature, requiring the best quality workmanship, supervision, engineering and construction management. The contractor should ensure proper planning and successful and timely completion of the work to meet the overall project schedule. The contractor must deploy adequate quantity of tools & plants, modern / latest construction aids etc. He must also deploy adequate trained, qualified and experienced supervisory staff and skilled personnel.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - I : General Intent of Specifications

1.6	Contractor shall erect and commission all the equipments and auxiliaries as per the sequence & methodology prescribed by BHEL depending upon the technical requirements. Availability of materials and fronts will decide this. BHEL Engineer's decision regarding correctness of the work and method of working shall be final and binding on the contractor. No claims for extra payment from the contractor will be entertained on the ground of deviation from the methods / sequence adopted in erection of similar sets elsewhere.
1.7	Following shall be the minimum responsibility of contractor and have to be provided within finally accepted rates / prices:
1.7.1	Provision as required of all types of labour, supervisors, engineers, watch and ward, tools & tackles, calibrated MMEs (Monitoring and Measuring Equipment) as specified and otherwise required for the work, consumables for erection, testing and commissioning including material handling, House-keeping, Watch and Ward.
1.7.2	Achieving Proper out-turn / Turn-over as per BHEL plan and commitment.
1.7.3	Completion of work as per BHEL Schedule
1.7.4	Good quality and accurate workmanship for proper performance of the equipment
1.7.5	Repair and rectification
1.7.6	Preservation / Re-conservation of all components during storage / erection / commissioning till handing over.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - II : General Services to be rendered by the Bidder

2.0	GENERAL SERVICES TO BE RENDERED BY THE BIDDER
2.1	Services for construction, fabrication, equipment erection testing as well as trial run & assistance during commissioning of various equipment and accessories under the contract shall include but not be limited to the following:
2.2	Issuing materials from store/open yard from time to time for erection as per the construction programme. The Contractor shall be the custodian of all the materials issued till the plant/equipment is officially taken over by the owner / BHEL after complete erection any successful trial run & commissioning.
2.3	Transport of material to their respective places of erection and erection of the complete plant & equipment as supplied under this specification.
2.4	Trial run and commissioning of individual equipment / sub-systems to the satisfaction of Owner/BHEL.
2.5	Deployment of all skilled and unskilled manpower required for erection, supervision of erection, watch & ward, commissioning and other services to be rendered under this specification.
2.6	Deployment of all erection tools & tackle, construction machinery, transportation vehicles and all other implements in adequate number and size, appropriate for the erection work to be handled under scope of this specification except otherwise specified.
2.7	Supply of all consumables, eg welding electrodes, cleaning agents, diesel oil, lubricant etc as well as materials required for temporary supports, scaffolding etc as necessary for such erection work, unless specified otherwise.
2.8	Providing support services for the contractor's erection staff eg construction of site offices, temporary stores, residential accommodation and transport to work site for erection personnel, watch and ward for security and safety of the materials under the Contractor's custody etc. as required.
2.9	Maintaining proper documentation of all the site activities undertaken by the Contractor as per the proforma mutually agreed with BHEL, Submission of monthly progress reports and any such document as and when desired by BHEL/owner, taking approval of all statutory authorities i.e Boiler Inspector, Factory Inspector, Inspector of Explosives etc , as applicable for respective portions of work fall under the jurisdiction of such statutes of laws.
2.10	Any other service, although not specifically called for but required for a contract of the size and nature indicated in the specification.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - III : General Technical Requirements (Codes and Standards)

3.0	GENERAL TECHNICAL REQUIREMENTS (CODES AND STANDARDS)
3.1	Except where otherwise specified, the plant/equipment shall comply with the appropriate Indian Standard or an agreed internationally accepted Standard Specification as mentioned elsewhere in contract specifications, each incorporating the latest revisions at the time of tendering. Where no internationally accepted standard is applicable, the Bidder shall give all particulars and details as necessary, to enable BHEL to identify all of the plant/equipment in the same detail as would be possible had there been a Standard Specification.
3.2	Where the Bidder proposes alternative codes or standards he shall include in his tender one copy (in English) of each Standard Specification to which materials offered shall comply. In such case, the adopted alternative standard shall be equivalent or superior to the standards mentioned in the specification.
3.3	In the event of any conflict between the codes and standards referred above, and the requirements of this specification, the requirements which are more stringent shall govern.
3.4	Tools used during erection and commissioning shall not be accepted except with the specific approval of the Engineer.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.0	OBLIGATIONS OF CONTRACTOR
4.1	CONSUMABLES & OTHER ITEMS
4.1.1	The contractor shall provide within finally accepted price / rates, all consumables (excepting those indicated in BHEL scope) like welding electrodes (including alloy steel and stainless steel), filler wires, TIG filler wires (over & above as supplied by the unit along with the plant materials, which will be given free of cost to bidder), gases (inert, welding, cutting), soldering material, dye penetrants, radiography films, etc. Other erection consumables such as tapes, jointing compound, grease, mobile oil, M-seal, Araldite, petrol, CTC / other cleaning agents, grinding and cutting wheels are to be provided by the contractor. Steel, packers, shims, wooden planks, scaffolding materials hardware items etc required for temporary works such as supports, scaffoldings are to be arranged by the contractor. Sealing compounds, gaskets, gland packing, wooden/concrete sleepers, for temporary work, required for completion of work except those which are specifically supplied by manufacturing unit are also to be arranged by the contractor. All consumables and related items required for housekeeping are also considered to be include here
4.1.2	All the shims, gaskets and packing, which go finally as part of plant equipment, shall be supplied by BHEL free of cost.
4.1.3	It shall be the responsibility of the contractor to plan the activities and store sufficient quantity of consumables. Non-availability of any consumable materials or equivalent suggested by BHEL cannot be considered as reason for not attaining the required progress or for additional claim.
4.1.4	<u>TIG Filler wire for Boiler and Filler wires for Electrodes for P91/T91 piping:</u> VOID
4.1.5	It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc before procurement of welding electrodes. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch number, date of expiry etc and produce test certificate for each lot / batch with correlation of batch / lot number with respective test certificate. No electrode without a valid test certificate will to be used.
4.1.6	BHEL reserves the right to reject the use of any consumable including electrodes, gases, lubricants / special consumables if it is not found to be of the required standard / make / purity or when shelf life has expired. Contractor shall ensure display of shelf life on consumable wherever required and records maintained.
4.1.7	Storage of all consumables including welding electrodes shall be done as per requirement / instruction of the Engineer by the contractor at his cost.
4.1.8	In case of improper arrangement for procurement of any consumable, BHEL

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	reserves the right to procure the same from any source and recover the cost from the Contractor's first subsequent bill at market value plus the departmental charges of BHEL from time to time. Postponement of such recovery is normally not permitted. The decision of Engineer in this regard shall be final and binding on the Contractor.
4.1.9	VOID
4.1.10	VOID
4.1.11	All charges on account of Octroi, terminal or sales tax and other duties on materials obtained from any source for carrying out the works in the scope of the contractor shall be borne by the contractor.
4.2	TOOLS AND PLANTS / MONITORING AND MEASURING EQUIPMENT (MMEs)
4.2.1	T&Ps and MMEs to be provided by Contractor
4.2.1.1	All T&Ps and MMEs excepting those specifically indicated in BHEL scope are to be provided by the Contractor. Contractor has to make his own arrangement at his cost for completing the formalities (including arrangement of Road permits, if any) if required with Sales Tax/VAT authorities, for bringing their materials, plants and equipments at site for the execution of work under this contract.
4.2.1.2	All suitable cranes, lifting and transport equipments for material handling at stores/yard/siding of BHEL/Customer are included in scope. BHEL's cranes will not be available for this purpose unless otherwise specifically permitted as per contract conditions
4.2.1.3	All T&Ps to be deployed by the contractor shall have the approval of BHEL Engineer with regard to brand, quality and specification.
4.2.1.4	Indicative list of Major T&Ps in the scope of Contractor are given in the Technical Conditions of Contract. Bidders to note that these are only indicative and as such all other T&P necessary for timely and satisfactory completion of work in scope shall be mobilized by Contractor
4.2.1.5	Timely deployment of adequate T&Ps is the responsibility of the contractor. The contractor shall be prepared to augment the T&P at short notice to match the planned programme and to achieve the milestones.
4.2.1.6	Contractor shall maintain and operate his tools and plants in such a way that major breakdowns are avoided. In the event of major breakdown, contractor shall make alternative arrangements expeditiously so that the progress of work is not hampered.
4.2.1.7	In the event of contractor failing to arrange the required tools, plants, machinery, equipment, material or non-availability of the same owing to breakdown, BHEL will make alternative arrangement at the risk and cost of the contractor. Decision of

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	BHEL shall be final and binding on the contractor
4.2.1.8	The T&P to be arranged by the contractor shall be in proper working condition and their operation shall not lead to unsafe condition. The movements of cranes, and other equipment should be such that no damage / breakage occurs to foundations, other equipments, material, property and men. All arrangements for the movement of the T&P etc shall be the contractor's responsibility.
4.2.1.9	Use of welding generators/ rectifiers only shall be permitted for welding. Use of welding transformers will be subject to specific approval of BHEL engineer.
4.2.1.10	The contractor at his cost shall carry out periodical testing of his construction equipments. Test certificates shall be furnished to BHEL.
4.2.1.11	<p>Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, manila ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Fitness certificate / Test Certificates of T&P shall have to be submitted before it is put in use. Identification for such T&Ps will be done as per BHEL Engineer's advice.</p> <p>BHEL reserves the right to permit only new slings up to 20 mm and lifting tackles up to 3 MT capacities.</p>
4.2.1.12	Contractor shall ensure deployment of reliable and calibrated MMEs (Inspection measuring and Monitoring equipment). The MMEs shall have test / calibration certificates from authorized / Government approved / accredited agencies traceable to National / International standards. Each MME shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
4.2.1.13	Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MME so that work does not suffer when the particular instrument is sent for calibration. If any MMEs not found fit for use, BHEL shall have the right to stop the use of such item. It will be necessary for the contractor to deploy proper item. Any readings taken by the defective instrument will be recalled and repeat the readings taken by that instrument with a proper one. In case he fails to do so, BHEL may deploy MMEs and retake the readings at contractor's cost.
4.2.1.14	BHEL shall have lien on all T&P, MMEs and other equipment of the contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract / extended period. The contractor and / or his sub-contractors, without the prior written approval of the Engineer, shall remove no material brought to the site.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.2.1.15	The month wise T&P deployment plan to execute the work is to be submitted as per relevant format as per the instruction of BHEL. It shall be the contractor's responsibility to deploy the required T&P, for timely and successful completion of the job, to any extent.
4.2.2	Obligations in respect of T&Ps and MMEs provided by BHEL
4.2.2.1	T&P / MMEs being provided by BHEL to sub-contractor free of hire charges shall be shared by other subcontractors working for BHEL at site and the allotment done by BHEL Engineer shall be final and binding.
4.2.2.2	BHEL T&P will be issued in basic assembled condition. Additional loose components / sub-assemblies / attachments as and when necessary, will be issued by BHEL. Assembly of such additional loose components/sub-assemblies/ attachments is in contractor's scope.
4.2.2.3	In case of non-availability of the T&Ps to be provided by BHEL due to breakdown, major overhauls, distribution pattern or any other reason, the contractor shall plan / amend / alter his activities to meet erection / commissioning targets in consultation with BHEL.
4.2.2.4	VOID
4.2.2.5	The contractor shall engage trained and experienced operators for the operation of BHEL's T&Ps. Their skill / performance will be checked by BHEL Engineer before they are allowed to operate the same. However checking of skills by BHEL does not absolve the contractor of his responsibilities for proper and safe handling of equipment, consistent good performance of operators and regular performance evaluation of operators.
4.2.2.6	The day to day operation and maintenance of BHEL's T&Ps (Other than cranes) shall be carried out by contractor as per manufacturer's / BHEL's maintenance schedule at his cost. The contractor shall arrange, at his own cost, trained operators, fuel and other consumables for their operation. BHEL shall arrange all spares needed for upkeep of major T&Ps provided like Huck Bolting Machine*, DG Set, Induction Machine and Hydraulic Test pumps. The contractor has to arrange for fixing of the spares; supervision in specialized cases will be provided by BHEL. For upkeep of all other T&Ps supplied by BHEL, spares shall be arranged by the Contractor. BHEL supplied T&Ps shall be maintained in good working condition during the entire period of use. T&Ps in defective / damaged condition shall be rectified promptly to the full satisfaction of BHEL engineer. Contractor shall maintain records for maintenance of major T&Ps. These shall be made available for Inspection whenever required. In case of any lapses on the part of the contractor, BHEL at its own discretion shall get the servicing / repair of equipment done at the risk and cost of the contractor along with BHEL overheads.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

	Further, if there are breakdowns / damages due to negligence of the contractor, the complete service / repair charges and cost of all the spares damaged with BHEL overheads shall be recovered from contractor's RA bills.
4.2.2.7	VOID
4.2.2.8	Increasing / shortening of the crane boom to suit work requirements shall have to be arranged by the indenting contractor at his cost including restoration to a state as directed by BHEL. All necessary manpower tools, support, consumables, illumination etc. will have to be arranged by contractor at his cost. If required, contractor has to return the crane with original boom.
4.2.2.9	The area and infrastructure development of the area to be carried out by the customer. However in construction projects of this magnitude it is possible that all the areas / approaches may not be ready. In such cases backfilling of approaches where ever necessary, consolidation of ground and arrangement of sleepers / sand bag filling etc for safe operation / movement of equipment including cranes / trailers etc shall be the responsibility of the contractor at his cost. No compensation on this account shall be payable.
4.2.2.10	In the event of contractor not using and maintaining BHEL T&Ps according to BHEL's instructions. BHEL will have the right to withdraw such item without any notice and no claim in this regard shall be entertained and contractor shall be responsible for delay in execution on this account.
4.2.2.11	The contractor shall furnish regular utilization report of the BHEL T&Ps, as per requirement of BHEL.
4.2.2.12	Any loss / damage to any part of BHEL T&Ps and MMEs shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss.
4.2.2.13	It shall be responsibility of the contractor to take delivery of T&Ps and MMEs from stores or place of use by other contractor at project site, transport the same to site and return the same to BHEL store / place as intimated by Engineer in project site in good working conditions after use.
4.2.2.14	The contractor shall return BHEL T&Ps and MMEs issued to him in good working condition as and when desired by BHEL (on completion or reduction of workload). If contractor delays return of T&P and MME, hire charges as applicable shall be levied by BHEL from time, it was requisitioned till the time of actual return. T&Ps and MMEs returned in damaged / unserviceable condition shall be got repaired by BHEL at its own discretion and entire cost of repair with BHEL overheads shall be recovered from the contractor.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter - IV : Obligations of Contractor

4.2.2.15	Replacement cost including BHEL overheads in respect of irreparable / completely damaged / non return of T&Ps and MMEs shall be recovered from the contractor's running / final bills
4.2.2.16	Obligations in respect of Cranes provided by BHEL
	VOID
4.2.2.17	Obligations in respect of Construction Lift/Elevators provided by BHEL
	VOID

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – V : Responsibilities of Contractor in respect of Labour, Supervisory Staff, etc.

5.0	RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF LABOUR, SUPERVISORY STAFF, ETC.
5.1	Refer relevant clauses of General Conditions of Contract (GCC) also in this regard
5.2	The contractor shall deploy all the necessary skilled/semiskilled/ unskilled labour including highly skilled workmen etc. These workmen should have previous experience on similar job. They shall hold valid certificates wherever necessary. BHEL reserves the right to insist on removal of any employee of the contractor at any time if he is found to be unsuitable and the contractor shall forthwith remove him.
5.3	Contractor shall also comply with the requirements of local authorities/ project authorities calling for police verification of antecedents of the workmen, staff etc.
5.4	It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the targets set by BHEL. This target may be set to suit BHEL's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to setting the erection and commissioning targets will be final and binding on the contractor.
5.5	Contractor shall provide at different elevation suitable arrangement for urinal and drinking water facility with necessary plumbing & disposal arrangement including construction of septic tank. These installations shall be maintained in hygienic condition at all times.
5.6	The Contractor in the event of engaging 20 or more workmen, shall obtain Independent license under the Contract labour (Regulation and Abolition) Act 1970 from the concerned authorities based on Form-V issued by the Principal Employer/Customer. In order to issue Form-V by Customer, Contractor shall fulfill all Statutory requirements like Insurance Policy, PF Code/PF Account number etc as per the requirement of BHEL/Customer
5.7	Contractor shall deduct the necessary amount towards Provident Fund and contribute equal amount as per Government of India laws. This amount will be deposited regularly to the provident Fund Commissioner. BHEL/Customer may insist for submission of the account code duly certified by PF Commissioner
5.8	Contractor may also be required to comply with provisions of ESI Act in vogue if applicable and submit evidence to BHEL.
5.9	BHEL / customer may insist for witnessing the regular payment to the labour. They may also like to verify the relevant records for compliance with statutory requirements. Contractor shall enable such facilities to BHEL / Customer.
5.10	Contractor shall deploy only qualified and experienced engineers/ supervisors. They shall have professional approach in executing the work.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – V : Responsibilities of Contractor in respect of Labour, Supervisory Staff, etc.

5.11	The contractor's supervisory staff shall execute the work in the most professional manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. They shall be responsible to ensure that the assembly and workmanship conform to dimensions and tolerances given in the drawings/instructions given by BHEL engineer from time to time.
5.12	The supervisory staff employed by the contractor shall ensure proper out turn of work and discipline on the part of the labour put on the job by the contractor. Also in general they should 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 contractors of BHEL or BHEL's client.
5.13	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 including Police verification etc. for making gate passes. Where permitted, by customer / BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permits for working beyond normal working hours. <u>Gate passes for Contractor's employees will be issued on Returnable basis by M/s NPCIL. It is the responsibility of contractor to return back all personnel gate passes to M/s NPCIL. If any gate pass is not returned, than a fine of Rs. 500 per pending gate pass will have to be paid and same will be deducted by BHEL from the contractor's payment.</u>
5.14	The actual deployment will of Labour and Engineer/supervision staff shall be so as to satisfy the erection and commissioning targets set by BHEL. If at any time, it is found that the contractor is not in a position to deploy the required engineers/supervisors/workmen due to any reason, BHEL shall have the option to make alternate arrangements at the contractor's risk and cost. The expenditure incurred along with BHEL overheads thereon shall be recovered from the contractor
5.15	Contractor shall not deploy women labour at night.
5.16	It is the responsibility of contractor to provide proper uniform and suitable personnel protection equipment(PPE) to all Engineers, Supervisors and Workers. Uniform colour is subject to approval by M/s BHEL/NPCIL

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI : Material Handling, Storage and Preservation etc.

6.0	MATERIAL HANDLING, STORAGE AND PRESERVATION ETC
6.1	MATERIAL HANDLING AND STORAGE
6.1.1	All the equipments/materials furnished under this contract shall be received from the project stores, sheds / storage yards and transported to pre assembly area / erection site and stored in the storage spaces in a manner so that they are easily retrievable till the contractor erects them. While drawing/lifting material from BHEL / customer stores, the contractor shall ensure that the balance / other materials are stacked back immediately. No claim is admissible on this account
6.1.2	While BHEL will endeavor to store / stack / identify materials properly in their open / close / semi closed / tarpaulins covered storage yard / shed, it shall be contractor's responsibility to assist BHEL in identifying materials well in time for erection. They should take the delivery of the same, following the procedure indicated by BHEL, and transport the material safely to pre-assembly yard / erection site in time, according to program.
6.1.3	The contractor shall take delivery of components, equipment / consumables from storage area after getting the approval of BHEL Engineer on standard indent forms.
6.1.4	The contractor shall identify and deploy necessary Engineers / supervisors / workmen for the above work in sufficient number as may be needed by BHEL, for areas covering their scope.
6.1.5	All the equipment shall be handled very carefully to prevent any damage or loss. No untested wire ropes / slings etc. shall be used for unloading / handling. The equipment shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the stores shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at site.
6.1.6	Contractor shall ensure that while lifting slings shall be put over the points indicated on the equipment or as indicated in the manufacturer's drawings. Slings / shackles of proper size shall be used for all lifting and rigging purposes. All care shall be taken to safe guard the equipment against any damage. Dragging of piping / valves should be avoided. In case of any damage the cost shall be covered from the contractor.
6.1.7	Approach road conditions from the stores / yards to the erection site may not be equipped and ideal for smooth transportation of the equipment. Contractor may have to be adequately prepared to transport the materials under the above circumstances without any extra cost. . The contractor may familiar himself with soil conditions at site.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI : Material Handling, Storage and Preservation etc.

6.1.8	Contractor shall be responsible for examining all the plant and materials issued to him and notify the Engineer immediately of any damage, shortage, discrepancy etc before they are moved out of the stores / storage area. The contractor shall be solely responsible for any shortages or damages in transit, handling, storage and erection of the equipment once received by him. As the erection work will be spread in different areas / locations of the project, contractor has to arrange sufficient number of watch / ward personal to avoid any pilferage of material
6.1.9	The contractor shall maintain an accurate and exhaustive record-detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the engineer at any time.
6.1.10	All the material in the custody of contractor and stored in the open or dusty locations must be covered with suitable weather proof / fire retardant covering material wherever applicable and shall be blocked up on raised level above ground. All covering materials including blocks and sleeper shall be arranged by the contractor at his cost.
6.1.11	If the material belonging to the contractor are stored in area other than those earmarked for his operation the engineer will have the right to get it moved to the area earmarked for the contractor at the contractors risk and cost.
6.1.12	The contractor shall be responsible for making suitable indoor storage facilities to store all equipment (drawn by the contractor from BHEL / customer stores), which require indoor storage till the time of their installation. The Engineer will direct the contractor in this regard, which item in his opinion will require indoor storage, and the contractor shall comply with Engineer's decision.
6.1.13	The contractor shall ensure that all surplus / damaged / scrap / unused material, packing wood / containers/ special transporting frames etc are returned to BHEL at a place in project area identified by the Engineer. The contractor will maintain an account for all items received and returned to BHEL. Any shortage in returning such items shall be chargeable to the contractor except allowable wastage for packing wood only.
6.1.14	The contractor shall hand over all parts / materials remaining extra over the normal requirement with proper identification tags to the stores as directed by the concerned BHEL engineer.
6.1.15	The contractor shall ensure that all the packing materials and protective devices installed on equipment during transit and storage are removed before installation.
6.1.16	It shall be the responsibility of the contractor to keep the work / storage areas in neat, tidy and working conditions. All surplus/unusable packing and other materials shall be removed and deposited at location(s) specified by BHEL

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VI : Material Handling, Storage and Preservation etc.

	within the project premises. If required weighing of the same within the project premises will have to be carried out.
6.2	PRESERVATION OF COMPONENTS
6.2.1	After taking delivery from BHEL / customer's stores, plant materials storage shall be subjected to the following protection besides other provisions indicated in these specifications elsewhere.
6.2.1.1	Items stored outdoors shall be stacked up at least six inches (6") off the ground. Items should not be stored in a low lying area where water logging is a possibility. Contractor should have sufficient numbers of wooden / concrete / steel sleepers for the job.
6.2.1.2	Motors, valves, electrical equipment, control equipment and instruments, and special or precision items requiring special care, etc shall be stored indoors. Motor windings shall be kept dry by use of external heat or space heaters.
6.2.1.3	Bearings and other wearing surfaces of plant materials shall be protected against corrosion and kept clean and should be regularly monitored.
6.2.1.4	Insulation materials shall be stored indoors or otherwise protected against getting wet/ damaged, using suitable measures and should be protected from direct rain.
6.2.2	It shall be the responsibility of the contractor to apply preservatives / touch up paints (primer) on equipment handled and erected by him till such time of final painting. It shall be contractor's responsibility to arrange for required paints (primer), thinners, labour, scaffolding materials, cleaning materials like wire brush, emery sheets, etc, cleaning of surface and provide one coat of preservatives / paints (primer) from time to time as decided by BHEL engineer. The accepted rate shall include this work also. It is to be noted that such painting may have to be done as and when required till such time the final painting is carried out.
6.2.3	The contractor shall effectively protect the finished work from action of weather and from damage or defacement and shall cover the finished parts then and there for their protection.
6.2.4	Any failure on the part of contractor to carry out works according to above clauses will entail BHEL to carry out the job from any other party and recover the cost from contractor.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VII: Drawings and Documents

7.0	DRAWINGS AND DOCUMENTS
7.1	The detailed drawings, specifications available with 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.
7.2	Necessary drawings to carry out the erection work will be furnished to the contractor by BHEL on loan, which shall be returned to BHEL Engineer at site after completion of work. Contractor shall ensure safe storage and quick retrieval of these documents.
7.3	The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and returning to BHEL.
7.4	The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work. The contractors quoted rates shall be inclusive of the above factor
7.5	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.
7.6	Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.
7.7	Contractor to employ suitably trained manpower to carryout any changes in drawings using latest version of AutoCAD, as required due to Engineering Change(ECN), Erection (FCN) and Commissioning. All necessary equipments like Desktop Computer with AutoCAD, Printers and other related software are to be arranged by contractor. Details of such drawings are given in BOQ under Annex-1 of Technical condition of Contract(TCC). It is the responsibility of contractor to arrange for required no.of copies for submission to M/s NPCIL.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VIII: Inspection and Quality

8.0	INSPECTION AND QUALITY
8.1	Inspection, Quality Assurance, Quality Control
8.1.1	Preparation of quality assurance log sheets and protocols with customer/consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.
8.1.2	The protocols between contractor and customer/ BHEL shall be made prior to installation for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer/ BHEL. This is necessary to ensure elimination of errors or keeping them within tolerable limits and to avoid accumulation and multiplication of errors.
8.1.3	<p>A daily log book should be maintained by every supervisor/engineer of contractor on the job in duplicate (one for BHEL and one for contractor) for detailing and incorporating alignment/clearance / centering / leveling readings and inspection details of various equipments etc.</p> <p>High pressure welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions.</p> <p>Record of radiography containing details like serial number of weld joints, date of radiography, repairs, if any, re-shots etc shall also be maintained as per BHEL Engineer's instructions.</p> <p>Record of heat treatments performed shall be maintained as prescribed by BHEL</p>
8.1.4	The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically furnished for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately
8.1.5	All the welders shall carry identity cards as per the proforma prescribed by BHEL/Customer/Consultant. Only welders duly authorized by BHEL/customer/consultant shall be engaged on the work.
8.1.6	Contractor shall provide all the Measuring Monitoring Equipments (MMEs)

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VIII: Inspection and Quality

	required for completion of the work satisfactorily. These MMEs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments/gauges/tools for the work under this specification, is final and binding on the contractor. BHEL may give an indicative list of MMEs required for this work and to be made available by the contractor. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed wherever required.
8.1.7	It is the responsibility of the contractor to prove the accuracy of the testing/measuring/calibrating equipments brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.
8.1.8	Any re-laying or re-termination of cables/re-erection of instruments/recalibration of instruments etc. required due to contractor's mistake or design requirement and found at any stage inspection, shall be carried out by the contractor at no extra cost.
8.1.9	BHEL, Electronics Division have already been accredited with ISO 9001 certification and as such this work is subject to various audits to meet ISO 9001 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall ensure deployment of reliable and calibrated MMEs (Measuring and Monitoring Equipments). The MMEs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMEs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall ie repeat the readings taken by that instrument, failing which BHEL may deploy MME and retake the readings at Contractor's cost.
8.1.10	Re-work necessitated on account of use of invalid MMEs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
8.1.11	In the courses of erection, it may become necessary to carry repeated checks

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VIII: Inspection and Quality

	of the work with instruments recently calibrated, re-calibrated. BHEL may counter/ finally check the measurements with their own MMEs. Contractor shall render all assistance in conduct of such counter/final measurements.
8.1.12	Total Quality is the watchword of the work and Contractor shall strive to achieve the Quality Standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and Quality Standards.
8.2	Stage Inspection By FES/QA Engineers
8.2.1	Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipments under erection and commissioning at various stages shall also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from Field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc along with proper access for such stage inspections free of cost.
8.2.2	Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per Section 2.15 of GCC and provided such modifications have not arisen for reasons attributable to the contractor.
8.3	Statutory Inspection of Work
8.3.1	<p>The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations.</p> <p>The work related statutory inspections, though not limited to, are as under:</p> <ol style="list-style-type: none">1) Inspectorate of Steam Boilers and Smoke Nuisance2) Electrical Inspector3) Factory Inspector, Labour Commissioner, PF Commissioner and other authority connected to this project work <p>The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer's instructions, arranging materials for ground inspection, taking rub outs for the pressure parts to be offered for inspection, submitting co-related inspection reports, documents, radiographs etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned</p>

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter – VIII: Inspection and Quality

	authority.
8.3.2	VOID
8.3.3	VOID
8.3.4	VOID
8.4	<p>The Quality Management System of BHEL, Electronics Division have already been certified and accredited under ISO 9001 standards in this regard. The basic philosophy of the Quality Management System is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/ procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The nonconformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. As such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.</p>
8.5	Field Quality Assurance
8.5.1	<p>Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) as revised from time to time. Total quality shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.</p>

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

9.0	<p>OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME:</p> <p>BHEL, Electronics Division is certified for ISO 9001. Quality of work to customer's satisfaction and fulfillment of system requirements are the essence of ISO 9001 certification. BHEL Electronics Division has HSE certification (ISO 14001 & OHSAS 18001) and therefore Contractor also shall organise/ plan/ perform all their activities to meet with the applicable requirements of these standards.</p>
9.1	<p>HSE (Health, safety & Environment):</p> <p>Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-</p>
9.1.1	<p>Contractor will nominate one of their qualified and experienced employees as Safety Officer, who will be responsible for all HSE related issues of contractors work area. Safety Officer will have authority to stop any activity, in case he observes that the activity is not being carried out in safe manner. He will conduct surprise inspection as well as periodic inspection/drill (at least once in a month) and submit such reports to BHEL. He will conduct periodic meetings with supervisors of different working groups and explain HSE issues and use of PPEs to them. Reports of such meetings will be submitted to BHEL. Contractor will develop suitable work procedures based upon HSE guidelines and OCPs and implement it. Such work procedures will consist of Area of work, T&P Details, Work Procedure, PPE requirements etc. Please refer Schedule VIII of BOCW Rules for number of safety officers, qualification, duties etc.</p> <p>Contractor should highlight the requirement of safety to staff and labour through daily tool box meeting before start of the days job.</p> <p>Contractor to also submit monthly safety reports as per the format/procedure of BHEL.</p>
9.1.2	<p>The contractor shall arrange induction and regular health check of their employees as per schedule VII of BOCW rules by a registered medical practitioner. The contractor shall take special care of the employees affected with occupational diseases under rule 230 and schedule II of BOCW Rules. The employees not meeting the fitness requirement should not be engaged for such job</p>
9.1.3	<p>Following personnel protective equipments (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured :-</p> <ul style="list-style-type: none"> - HELMET - SAFETY GOGGLES & WELDING FACE SHIELDS - SAFETY BELTS AND PROTECTIVE NET FOR WORKING AT HEIGHT

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	- SAFETY SHOES
	- EAR PLUG
	- ANY OTHER SAFETY EQUIPMENT REQUIRED FOR SAFE COMPLETION OF THE WORK
	Contractor to also submit monthly reports on above as per the format/procedure of BHEL.
9.1.4	Providing appropriate First Aid facilities for prompt treatment of injuries and illness at work place. Arranging training to contractor workmen/ employees for giving first aid.
9.1.5	Arranging ambulance in case of any emergency situation .
9.1.6	Identification of nearest hospital and health check-up of workmen/employees
9.1.7	Providing filtered drinking water at work place in cool container.
9.1.8	Providing Canteen, Rest Room, Washing facilities to the contracted employees as per provisions of Contract Labour Regulation Act 1970 (Chapter V).
9.1.9	Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
9.1.10	Identification of nearest fire station and display contact telephone nos. / person's name around work places for cases of emergencies .
9.1.11	Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
9.1.12	Fulfilling safety requirements at all power tapping points.
9.1.13	Red & White caution tape of proper width(1.5 to 2 inch) to be used for cordoning unsafe area such as open trench, excavation area etc.
9.1.14	Providing contractors company logo on cloths /uniform/ proper identity cards with photographs, for correct identification of people working at project site .
9.1.15	High/ Low pressure welders to be identified with separate colour clothings. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at work place.
9.1.16	Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place .
9.1.17	All scaffolding/ platforms should be made from materials of appropriate quality/grade so that these are safe for use. It should be certified/declared safe for use by an experienced contractor person, before any scaffolding/platform is used. Please refer IS:3696 part 1&2 and 4014 part 1 & 2
9.1.18	All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL.. Contractor to also submit monthly reports of T&Ps deployed and validity test certificates to BHEL safety Officer as per the format/procedure of BHEL.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

9.1.19	Ensure that the regulatory requirement of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
9.1.20	Safety slogan, Safety/ Caution boards , wherever required to be displayed in consultation with BHEL.
9.1.21	Take suitable measures for waste management and environment related laws/legislation as a part of normal construction activities. Compliance with the legal requirements on storage/ disposal of paint drums (including the empty ones), Lubricant containers, Chemical Containers, and transportation and storage of hazardous chemicals will be strictly maintained. Ensure proper cleanliness of work place, housekeeping and waste management (including proper waste disposal) on daily basis.
9.1.22	It is imperative on the part of the contractor to join and effectively contribute in joint measures such as tree plantation, environment protection, contributing towards social upliftment, conversion of packing woods to school furniture, keeping good relation with local populace etc.
9.1.23	The contractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.
9.1.24	The Contractor is required to provide proper safety net systems (IS-11057) where ever the hazard of fall from height is present as per instruction of BHEL Engineer. The safety nets shall be fire resistant, duly tested and shall be of ISI Mark and the nets shall be located as per site requirements to arrest or to reduce the consequences of a possible fall of persons working at different heights.
9.1.25	All applicable M/s NPCIL/BHEL approved OCPs (Operational control procedures) and Safety Manuals will be followed by contractor as per BHEL instructions. This will be done as part of normal scope of work. In case any other OCP is found to be applicable during the execution of work at site, then contractor will follow this as well, within quoted rate. These OCPs (applicable ones) and Safety Manuals will be made available to contractor during work execution at site.
9.2	SAFETY AND CLEANLINESS : The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per discretion of BHEL or its authorised officials (Site Construction Manager) to prevent loss of human lives, injuries, to personnel engaged and damage to property. Before commencing the work, the contractor shall submit a "Safety Plan" to the above authorised BHEL official and obtain approval on the same. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety of men, equipment, materials and environment during execution of the work. This will also include an

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	organization structure, role and responsibilities of the concerned key personnel, the safety practices that will be followed, PPEs deployed, plan for handling critical activities and emergencies.
9.3	If the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorised BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor.
9.4	During the course of construction, alternation or repairs, scrap with protruding nail, sharp edge etc and all other debris shall be kept clean from working areas, passage, ways and stairs in and around site.
9.5	Combustible scrap and debris shall be removed at regular intervals during the course of execution. Safe means shall be provided to facilitate such removal. The combustible scrap should be stored in safe place away from the plant materials to avoid fire accidents. The area shall be chosen in consultation with the Engineer and to be cordoned off.
9.6	Rigging equipment for materials handling shall be inspected prior to use in each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment will be removed from service.
9.7	Rigging equipment shall not be loaded in excess of its recommended safe working load. Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.
9.8	Contractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.
9.9	Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the contractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations laid down in the relevant petroleum act, explosive act and petroleum and carbide of calcium manual, published by the chief inspector of explosives of India. All such storage shall have prior approval if necessary from the chief inspector of explosives or any other statutory authority. The contractor shall be responsible for obtaining the same.
9.10	Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dragged, struck or permitted to strike each other

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	violently.
9.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.
9.12	All workmen of the contractor working on construction area shall wear safety shoes, hand gloves, safety helmets and safety belt as applicable. The contractor shall provide to its workforce and ensure the use of following personnel protective equipment as found necessary and as directed by BHEL.
9.12.1	Safety Helmets conforming to IS-2925 : 1984
9.12.2	Safety Belts conforming to IS-3521:1983
9.12.3	Safety Shoes conforming to IS-1989 : 1978
9.12.4	Eye and face protection devices conforming to IS – 1179:1967, IS 5983:1980, IS 8521 Part 1:1977, IS 8521 Part 2: 1994.
9.12.5	Hand and body protection devices conforming to IS 4770:1991 and IS- 6994 : Part 1: 1973, IS – 8619 : 1977
9.12.6	Ear protection IS-9167:1979
9.12.7	Respiratory Protective Devices as per IS-9473:2002, i4746:1999 and 14166:1994
9.13	The contractor shall insure his workmen against all accidents and the policy shall be presented to BHEL Engineer on demand. Other wise, BHEL will arrange the same and the expenditure towards this will be debited to the contractor. In case of a fatal or disabling injury accident to any person at construction site due to lapses by the contractor, the victim and/or his/her dependants shall be compensated by the contractor as per statutory requirements. However, if considered necessary BHEL shall have the right to impose appropriate financial penalty on contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependence before imposing any such penalty. Appropriate enquiry shall be held by BHEL giving opportunity to the contractor for presenting his case. Above safety conditions are not exhaustive but gives an idea for the contractor and contractor shall adhere to all safety precaution given by the Engineer at site.
9.14	The contractor shall arrange at his cost adequate lighting facilities e.g. flood lighting, hand lamps, area lighting etc. at various levels for safe and proper working operations during night hours at the work spot as well as at the pre-assembly area.
9.15	The contractor shall be responsible for provision of all the safety notices and safety equipment as enjoined on him by the application of relevant statutory

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	regulation / provisions and/or as called upon by BHEL from time to time. He shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instruction that may endanger safety of men, equipment and material.
9.16	The contractor shall provide temporary fencing wherever required as a safety measure against accident and damage to properties. Suitable caution notices shall be displayed where access to any part is found to be unsafe and hazardous.
9.17	Contractor shall ensure safety of all the workmen, material and equipment either belonging to him or to others working at site. He shall observe safety rules and codes applied by BHEL without exception.
9.18	It will be the responsibility of the contractor to ensure safe lifting of the equipment, taking due precaution to avoid any accident and damage to other equipment and personnel. All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the contractor by engaging only the COMPETENT PERSONS as per law. Defective equipment or uncertified shall be removed from service. Any equipment shall not be loaded in excess of its recommended safe working load.
9.19	The contractor shall provide necessary first aid facilities as per schedule III. In addition, ambulance facilities, OHC and CMO as per schedule IV, V, X and XI of BOCW Rules as applicable for all his employees, representatives and workmen at site and BHEL shall have no obligation in this regard. The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time. The contractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.
9.20	Training
9.20.1	The contractor shall arrange induction safety training for all employees before assigning work. In addition, awareness programme, mock drill at regular intervals and daily tool box meetings shall be arranged. Monthly report of the above to be given to BHEL safety Officer as per prescribed BHEL formats
9.20.2	All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate his supervisor to coordinate and implement the safety measures.
9.21	Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labour colony etc. Such fire protection equipment shall be easy and kept open at all times. The fire

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	<p>extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders. All other fire safety measures as laid down in the “codes for fire safety at construction site” issued by safety coordinator of BHEL shall be followed. Non-compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring either to his materials or equipment or those of others. Emergency contacts nos must be displayed at prominent locations</p>
9.22	<p>The contractor shall at his cost, remove from vicinity of work at least once each day all combustible waste, scrap, painting materials, rubbish, unused or other materials and deposit them in places specified by BHEL to keep the work site clear and tidy. Use of undercoated canvas paper, corrugated paper, fabricated carton, plastic or other flammable materials shall be restricted to the minimum and promptly removed.</p>
9.23	<p>The contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces.</p>
9.24	<p>All portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. Details of earth resistant and their test date to be given to BHEL safety officer as per the prescribed formats of BHEL</p>
9.25	<p>In case of any delay in completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably.</p>
9.26	<p>Valve protection caps shall be kept in place and secured.</p>
9.27	<p>The contractor shall be responsible for the safe storage and handling of his radio-active sources as per BARC rules and regulations.</p>
9.28	<p>Tarpaulin being inflammable should not be used (instead, only non infusible covering materials shall be used) as protective cover while preheating, welding, stress relieving etc. at site.</p>
9.29	<p>If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.</p>

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

9.30	If the contractor succeeds in carrying out its job in time with out any fatal or disabling injury accident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the contractor suitably for the performance.
9.31	The contractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.
9.32	The contractor shall use only properly insulated and armored cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site. BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the contractor. All electrical appliances used in the work shall be in good working condition and shall be properly earthed. No maintenance work shall be carried out on live equipment. The contractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations. Area wise Electrical safety inspection is to be carried out on monthly basis as per "Electrical Safety Inspection checklist" and the report is to be submitted to BHEL safety officer
9.33	The contractor shall arrange adequate number of persons specifically for clearing any debris and for house keeping of the erection area including restacking of components in the erection areas. Housekeeping to be carried out as per BHEL's checklist and report is to be submitted to BHEL safety officer
9.34	In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the contractor after holding an appropriate enquiry.
9.35	The contractor shall submit report of all accidents, fires and property damage etc to the Engineer immediately after such occurrence, but in any case not later than 24 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition periodic reports on safety shall also be submitted by the contractor to BHEL from time to time as prescribed by the Engineer. Compiled monthly reports of all kinds of accidents, fires and property damage to be submitted to BHEL safety officer as per prescribed formats
9.36	Before commencing the work, the contractor shall appoint/nominate a responsible person to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
9.37	Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ horizontal and 1 vertical.
9.38	Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the out side and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from savor, from swaying, from the building or structure.
9.39	Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform gangways provided is more than 3.6 m above ground level or floor level, they shall be closely boarded and shall have adequate width which shall not be less than 750 mm and be suitably fenced as described above.
9.40	Every opening in the floor or a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.
9.41	Wherever there are open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
9.42	Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this width shall be increased at least $\frac{1}{4}$ " for each additional foot of length.
9.43	A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.
9.44	All personnel of the Contactor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal worker shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
9.45	Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
9.46	All trenches, four feet or more in depth, shall at all times be supplied with at least one ladder for each 30 m in length or fraction thereof. The ladder shall be extended from bottom of the trench to at least 90 cm above the surface of the

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	ground. Sides of the trenches which are 1.50 m or more in depth shall be stepped back to give suitable slope or securely held by timer bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
9.47.1	The contractor shall take permission of BHEL prior to risky jobs such as working at height, hot work, liftig activities, etc through permits. No job should be started without permits.
9.47.2	The Contactor shall take all measures at the sites of the work to protect all persons from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law that may be brought by any persons for injury sustained or death owing to neglect of the above precautions and to pay any such persons such compensation or which may with the consent of the Contractor be paid to compromise any claim by any such person should such claim proceeding be filed against BHEL, the Contractor hereby agrees to indemnify BHEL against the same.
9.48	Before any demolition work is commenced and also during the process of the work the following shall be ensured:
9.48.1	All roads and open areas adjacent to the work site shall either be closed or suitably protected.
9.48.2	No electric cable or apparatus which is liable to be a source of danger nor a cable or an apparatus used by the operator shall remain electrically charged.
9.48.3	All practical steps shall be taken to prevent danger to persons employed from the risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render them unsafe.
9.49	All necessary personnel safety equipment as considered adequate by the Engineer should be kept available for the use of the persons employed in the Site and maintained in a condition suitable for immediate use and the Contactor should take adequate steps to ensure proper use of equipment by those concerned.
9.49.1	Workers employed on mixing asphalted materials, cement and lime mortars shall be provided with protective foot wear and protective goggles.
9.49.2	Those engaged in white washing and mixing or stacking of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

9.49.3	Those engaged in welding works shall be provided with welder's protective eyesight lids.
9.49.4	Stone breakers shall be provided with protective goggles and protective clothing and seated sufficient to safe intervals.
9.49.5	Where workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into manhole, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
9.49.6	The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken.
9.49.6.1	No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
9.49.6.2	Suitable face masks should be supplied for use by the workers where paints are applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
9.49.6.3	Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
9.50	When the work is being done near any place where there is risk of drowning all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
9.51	Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards. Hoisting appliance should be provided with such means as will reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductor of electricity.
9.52	All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the places of work.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

9.53	The contractor shall maintain and ensure necessary safety measures as required for inspection and tests (HV test, Pneumatic test, Hydraulic test, Spring test, Bend test etc as) applicable, to enable. inspection Agency for performing Inspection. If any test equipment is found not complying with proper safety requirements then the Inspection Agency may withhold inspection, till such time the desired safety requirements are met.
9.54	The Contractor shall notify BHEL of his intention to bring to site any equipment or material which may create hazard. BHEL shall have the right to prescribe the conditions under which such equipment or materials may be handled and the contractor shall adhere to such instructions. BHEL may prohibit the use of any construction machinery, which according to him is unsafe. No claim for compensation due to such prohibition will be entertained by BHEL.
9.55	All safety precautions shall be taken for welding and cutting operations as per IS-818. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764.
9.56	.All gas cylinders shall be stored in upright position. Suitable trolley shall be used. There shall be flash-back arrestors conforming to IS-11006 at both cylinder and burner ends. Damaged tube and regulators must be immediately replaced. No of cylinders shall not exceed the specified quantity as per OCP
9.57	These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent, place at work spot. The persons responsible for compliance of the safety code shall be named therein by the Contractor
9.58	To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangement made by the contractor shall be open to inspection by the Engineer of the Engineer's Representative.
9.59	Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the contractor. Such cleanings has to be done by contractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by contractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost alongwith BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the contractor.
9.60	Notwithstanding the above clauses there is nothing to exit the Contractor from the operations of any other Act or Rule in force in area of work in this respect. Provided always that all safety measures apart from those specifically provided in this agreement which are brought to the notice of the Contractor from time to time by the Engineer shall be complied by the Contractor. Provided further that

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

	all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor.																																																																			
9.61	<p><u>NON COMPLIANCE:-</u> NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER <u>for every instance of violation noticed:</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">SN</th> <th style="width: 75%;">Violation of Safety Norms</th> <th style="width: 20%;">Fine (in Rs)</th> </tr> </thead> <tbody> <tr><td>01</td><td>Not Wearing Safety Helmet</td><td>50/- *</td></tr> <tr><td>02.</td><td>Not wearing Safety Belt or not anchoring life line</td><td>100/-*</td></tr> <tr><td>03</td><td>Not wearing safety shoe</td><td>100/-*</td></tr> <tr><td>04</td><td>Not keeping gas cylinders vertically</td><td>100/-</td></tr> <tr><td>05</td><td>Not using flash back arrestors</td><td>50/-</td></tr> <tr><td>06</td><td>Not wearing gloves</td><td>50/- *</td></tr> <tr><td>07.</td><td>Grinding Without Goggles</td><td>50/- *</td></tr> <tr><td>08.</td><td>Not using 24 V Supply For Internal Work</td><td>500/-</td></tr> <tr><td>09.</td><td>Electrical Plugs Not used for hand Machine</td><td>100/-</td></tr> <tr><td>10.</td><td>Not Slinging property</td><td>200/-</td></tr> <tr><td>11.</td><td>Using Damaged Sling</td><td>200/-</td></tr> <tr><td>12.</td><td>Lifting Cylinders Without Cage</td><td>500/-</td></tr> <tr><td>13.</td><td>Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.</td><td>200/-</td></tr> <tr><td>14.</td><td>Not Removing Small Scrap From Platforms</td><td>200/-</td></tr> <tr><td>15.</td><td>Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting</td><td>200/-</td></tr> <tr><td>16.</td><td>Not Maintaining Electric Winches Which are Operated Dangerously</td><td>500/-</td></tr> <tr><td>17.</td><td>Improper Earthing Of Electrical T&P</td><td>500/-</td></tr> <tr><td>18</td><td>No or improper barricading</td><td>500/-</td></tr> <tr><td>19.</td><td>Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)</td><td>1000/-</td></tr> <tr><td>20.</td><td>Accident Resulting in Partial Loss in Earning Capacity</td><td>25,000/- per victim</td></tr> <tr><td>21.</td><td>Fatal Accident/Accidents Resulting in total loss in Earning Capacity</td><td>1,00,000/- per victim</td></tr> </tbody> </table>		SN	Violation of Safety Norms	Fine (in Rs)	01	Not Wearing Safety Helmet	50/- *	02.	Not wearing Safety Belt or not anchoring life line	100/-*	03	Not wearing safety shoe	100/-*	04	Not keeping gas cylinders vertically	100/-	05	Not using flash back arrestors	50/-	06	Not wearing gloves	50/- *	07.	Grinding Without Goggles	50/- *	08.	Not using 24 V Supply For Internal Work	500/-	09.	Electrical Plugs Not used for hand Machine	100/-	10.	Not Slinging property	200/-	11.	Using Damaged Sling	200/-	12.	Lifting Cylinders Without Cage	500/-	13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-	14.	Not Removing Small Scrap From Platforms	200/-	15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-	16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-	17.	Improper Earthing Of Electrical T&P	500/-	18	No or improper barricading	500/-	19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-	20.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim	21.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	1,00,000/- per victim
SN	Violation of Safety Norms	Fine (in Rs)																																																																		
01	Not Wearing Safety Helmet	50/- *																																																																		
02.	Not wearing Safety Belt or not anchoring life line	100/-*																																																																		
03	Not wearing safety shoe	100/-*																																																																		
04	Not keeping gas cylinders vertically	100/-																																																																		
05	Not using flash back arrestors	50/-																																																																		
06	Not wearing gloves	50/- *																																																																		
07.	Grinding Without Goggles	50/- *																																																																		
08.	Not using 24 V Supply For Internal Work	500/-																																																																		
09.	Electrical Plugs Not used for hand Machine	100/-																																																																		
10.	Not Slinging property	200/-																																																																		
11.	Using Damaged Sling	200/-																																																																		
12.	Lifting Cylinders Without Cage	500/-																																																																		
13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-																																																																		
14.	Not Removing Small Scrap From Platforms	200/-																																																																		
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	200/-																																																																		
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-																																																																		
17.	Improper Earthing Of Electrical T&P	500/-																																																																		
18	No or improper barricading	500/-																																																																		
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-																																																																		
20.	Accident Resulting in Partial Loss in Earning Capacity	25,000/- per victim																																																																		
21.	Fatal Accident/Accidents Resulting in total loss in Earning Capacity	1,00,000/- per victim																																																																		

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-IX:HSE& OHSAS

		#
	<p>Legend:-*: per head, #: or as deducted by Customer whichever is higher</p> <p>Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilized for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.</p>	
9.61	<p>CITATION:-If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job</p>	
9.62	<p><u>MEMORANDUM OF UNDERSTANDING</u> After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:</p> <p style="text-align: center;"><u>Memorandum of Understanding</u></p> <ul style="list-style-type: none"> ➤ BHEL, EDN is committed to Health, Safety and Environment Policy (EHS Policy). ➤ M/s _____ do hereby also commit to the same EHS Policy while executing the Contract Number _____ ➤ M/s _____ shall ensure that safe work practices not limited to the above are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance. ➤ BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days. <p>Signed by authorized representative of M/s -----</p> <p>Name :</p> <p>Place & Date:</p>	

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-IX:HSE& OHSAS

Blank sheet

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-X: RA Bill Payments

10.0	RA Bill Payments
10.1	The contractor shall submit his monthly RA bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month.
10.2	Mode of payment and measurement of work completed shall be as per relevant clauses of General Conditions of Contract
10.3	Release of payment in each running bill including PVC Bills where ever applicable will be restricted to 95% of the value of work admitted as per stages of progressive pro rata payments.
10.4	The 5% thus remaining shall be treated as 'Retention Amount' and shall be released as per terms specified in the General Conditions of Contract.
10.5	<p>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.</p> <p>In case of Civil works, 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.</p>
10.6	<p>BHEL shall release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, Contractor to furnish details pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker, as per prescribed formats:</p> <p>Note: BHEL may also choose to release payment by other alternative modes as applicable</p>
10.7	Paying Authority shall be the Construction Manager of the Site. Any change in the paying Authority shall be intimated to the Contactor accordingly.

SPECIAL CONDITIONS OF CONTRACT (SCC)

Chapter-XI : Performance Monitoring

11.0	Performance Monitoring
11.1	Performance of the contractor is monitored through various reports/reviews and shall be jointly evaluated every month for unit wise identified packages as per prescribed formats. Based on the net weighted scores obtained, Contractors shall be rated 'Good' or 'Satisfactory' or 'Unsatisfactory'
11.2	In case of any dispute on performance rating and the contractor refuses to sign on the performance rating given by BHEL package Incharge, the same shall be reviewed by BHEL site Incharge/Construction Manager and his decision shall be final.
11.3	Release of RA Bills will be contingent upon joint evaluation of performance
11.4	Performance of the contractor will be taken into consideration for assessing the capacity of the bidder to execute future jobs under tender, as detailed in the Notice Inviting Tender. Risk of non evaluation or non availability of the Monthly performance evaluation reports is to be borne by the Bidder.
11.5	In case of 'Unsatisfactory performance' for a continuous period of three or more months for a package or packages, BHEL has the right to get the balance works executed at the risk and cost of the contractor.
11.6	In case of 'Unsatisfactory performance' in a financial year, BHEL reserves the right to put on hold such Contractors for a period of six months for similar package or similar packages

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-XII: Suspension of Business Dealings

12.0	Suspension of Business dealings
12.1	BHEL reserves the right to take action against contractors who fail to perform or indulge in malpractices, by suspending business dealings with them.
12.2	Suspension could be in the form of 'Hold', 'De-listing' or 'Banning' a contractor.
12.3	<p>A bidder may be put on HOLD for a period of 6 months, for future tenders for specific works on the basis of one or more of the following reasons:</p> <ul style="list-style-type: none"> a) Bidder does not honour his own offer or any of its conditions within the validity period. b) Bidder fails to respond against three consecutive enquires of BHEL. c) After placement of order, Bidder fails to execute a contract. d) Bidder fails to settle sundry debt account, for which he is legitimately liable, within one year of its occurrence. e) Bidder's performance rating falls below 60% in specific category (more fully described in chapter 'Performance Monitoring') f) Bidder works are under strike/ lockout for a long period.
12.4	<p>A Bidder may be de-listed from the list of registered Bidders of the region for a period of 1 year on the basis of one or more of the following reasons:-</p> <ul style="list-style-type: none"> a) Bidder tampers with tendering procedure affecting ordering process or commits any misconduct which is contrary to business ethics. b) Bidder has substituted, damaged, failed to return, short returned or unauthorizedly disposed off materials/ documents/ drawings/ tools etc of BHEL. c) Bidder no longer has the technical staff, equipment, financial resources etc. required to execute the orders/ contracts.
12.5	<p>A Bidder can be banned from doing any business with all Units of BHEL for a period of 3 years on the basis of one or more of the following reasons:</p> <ul style="list-style-type: none"> a) Bidder is found to be responsible for submitting fake/ false/ forged documents, certificates, or information prejudicial to BHEL's interest. b) In spite of warnings, the Bidder persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements. c) Bidder is found to be involved in cartel formation

SPECIAL CONDITIONS OF CONTRACT (SCC)
Chapter-XII: Suspension of Business Dealings

	<p>d) The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics.</p> <p>e) The Bidder is found guilty by any court of law for criminal activity/offences involving moral turpitude in relation to business dealings.</p> <p>f) The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes.</p> <p>g) Bidder is found to have obtained Official Company information/documentation by questionable means.</p> <p>h) Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.</p>
12.6	Contracts already entered with a contractor before the date of issue of order of 'HOLD' or 'DE-LISTING' shall not be affected.
12.7	All existing contracts with a 'BANNED' contractor shall normally be short closed
12.8	Once the order for suspension is passed, existing offers/new offers of the contractor shall not be entertained
12.9	The above guidelines are not exhaustive but enunciate broad principles governing action against contractors

Volume - IC General Conditions of Contract

2013

TABLE OF CONTENTS

1. **Chapter-1** : General Instructions to Tenderers

- 1.1. Despatch Instructions
- 1.2. Submission of Tenders
- 1.3. Language
- 1.4. Price Discrepancy
- 1.5. Qualification of Tenderers
- 1.6. Evaluation of Bids
- 1.7. Data to be enclosed
- 1.8. Authorisation and Attestation
- 1.9. Earnest Money Deposit
- 1.10. Security Deposit
- 1.11. Return of Security Deposit
- 1.12. Bank Guarantee
- 1.13. Validity of offer
- 1.14. Execution of Contract Agreement
- 1.15. Rejection of Tender and other Conditions

2. **Chapter-2**

- 2.1. Definitions
- 2.2. Law Governing Contract and Court Jurisdiction
- 2.3. Issue of Notice
- 2.4. Use of land
- 2.5. Commencement of Work
- 2.6. Measurement of Work and Mode of Payment
- 2.7. Rights of BHEL
- 2.8. Responsibilities of Contractor in respect of Local Laws, Employment of Workers etc
- 2.9. Progress Monitoring, Monthly Review and Performance Evaluation
- 2.10. Time of Completion
- 2.11. Extension of Time for Completion

- 2.12. Over Run Compensation
- 2.13. Interest Bearing Recoverable Advances
- 2.14. Quantity Variation
- 2.15. Extra Works
- 2.16. Supplementary Items
- 2.17. Price Variation Compensation
- 2.18. Insurance
- 2.19. Strikes & Lockout
- 2.20. Force Majeure
- 2.21. Arbitration and Reconciliation
- 2.22. Retention Amount
- 2.23. Payments
- 2.24. Performance Guarantee for Workmanship
- 2.25. Closing of Contracts
- 2.26. Reverse Auction
- 2.27. Suspension of Business Dealings
- 2.28. Other Issues

CHAPTER -1

1. GENERAL INSTRUCTION TO TENDERERS

1.1. DESPATCH INSTRUCTION

- i) The General Conditions of Contract form part of the Tender specifications. **All pages of the tender documents shall be duly signed, stamped and submitted along with the offer in token of complete acceptance thereof.** The information furnished shall be complete by itself. The tenderer is required to furnish all the details and other documents as required in the following pages
- ii) Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. Should the tenderers have any doubt about the meaning of any portion of the Tender Specification or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, the scope of work etc., he shall at once, contact the authority inviting the tender well in time (so as not to affect last date of submission) for clarification before the submission of the tender. Tenderer's request for clarifications shall be with reference to Sections and Clause numbers given in the tender documents. The specifications and terms and conditions shall be deemed to have been accepted by the tenderer in his offer. Non compliance with any of the requirements and instructions of the tender enquiry may result in the rejection of the tender.
- iii) Integrity pact (IP) shall be applicable for all tenders / contracts if indicated in NIT. This integrity pact shall be issued as part of the Tender documents and shall be returned by the bidder along with Techno-commercial bid duly filled, signed and stamped by the authorized signatory who signs the bid. Only those vendors / bidders who have entered into such an IP with BHEL shall be considered qualified to participate in the bidding. Entering into this pact shall be a preliminary qualification.

1.2. SUBMISSION OF TENDERS

- 1.2.1 The tenderers must submit their tenders to Officer inviting tender as per instructions in the NIT
- 1.2.2 Tenders submitted by post shall be sent by 'REGISTERED POST ACKNOWLEDGEMENT DUE / by COURIER' and shall be posted with due allowance for any postal/courier delays. BHEL takes no responsibility for delay, loss or non-receipt of tenders sent by post/courier. **The tenders received after the specified time of their submission are treated as 'Late Tenders' and shall not be considered under any circumstances.** Offers received by Fax/Email/Internet shall be considered as per terms of NIT.
- 1.2.3 Tenders shall be opened by authorised Officer of BHEL at his office at the time and date as specified in the NIT, in the presence of such of those tenderers or their authorised representatives who may be present

1.2.4 Tenderers whose bids are found techno commercially qualified shall be informed the date and time of opening of the Price Bids and such Tenderers may depute their representatives to witness the opening of the price bids. BHEL's decision in this regard shall be final and binding.

1.2.5 Before submission of Offer, the tenderers are advised to inspect the site of work and the environments and be well acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour, means of transport and access to Site, accommodation, site specific requirements ,Rules and Regulations, Location of various facilities and work areas etc. No claim will be entertained later on the grounds of lack of knowledge of any of these conditions.

1.3. LANGUAGE

1.3.1 The tenderer shall quote the rates in English language and international numerals. These rates shall be entered in figures as well as in words. For the purpose of the tenders, the metric system of units shall be used.

1.3.2 All entries in the tender shall either be typed or written legibly in ink. Erasing and over-writing is not permitted and may render such tenders liable for rejection. All cancellations and insertions shall be duly attested by the tenderer.

1.4 PRICE DISCREPANCY:

1.4.1 **Conventional (Manual) Price Bid opening** : In the case of price bid opening without resorting to Reverse Auction, if there are differences between the rates given by the tenderer in words and figures or in amount worked out by him, the following procedure for evaluation and award shall be followed:

- i) When there is a difference between the rates in figures and in words, the rates which corresponds to the amounts worked out by the contractor, shall be taken as correct
- ii) When the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figure or in words, then the rate quoted by the contractor in words shall be taken as correct
- iii) When the rate quoted by the contractor in figures and words tallies but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount.
- iv) In case of lumpsum price, if there is any difference between the amount in figures and in words, the amount quoted by the bidder in words shall be taken as correct.
- v) In case of omission in quoting any rate for one or more items, the evaluation shall be done considering the highest quoted rate obtained against the respective items by other tenderers for the subject tender. If the tenderer becomes L-1, the notional rates for the omission items shall be the lowest rates quoted for the respective items by the other tenderers against the respective omission items for the subject job and the 'Total quoted price (loaded for omissions)' shall be arrived at. However the overall price remaining the same as quoted originally, the rates for all the items in the 'Total quoted price (loaded for omissions)' shall be reduced item wise in proportion to the ratio of 'Original' total price and the 'Total quoted price (loaded for omissions)'
- vi) The 'Final Total Amount' shall be arrived at after considering the amounts worked out in line with 'i' to 'iv' above.

1.4.2 **Reverse Auction**: In case of Reverse Auction, the successful bidder shall undertake to execute the work as per overall price offered by him during the Reverse Auction process. In case of omission of rates, the procedure shall be as per 'Guidelines for Reverse Auction' enclosed.

1.5. QUALIFICATION OF TENDERERS

- i) Only tenderers who have previous experience in the work of the nature and description detailed in

- the Notice Inviting Tender and/or tender specification are expected to quote for this work duly detailing their experience along with offer.
- ii) Offers from tenderers who do not have proven and established experience in the field shall not be considered
 - iii) .Offers from tenderers who are under suspension (banned) by any Unit/Region/Division of BHEL shall not be considered.
 - iv) Offers from tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India shall not be considered.

1.6. EVALUATION OF BIDS

- i) Technical Bids submitted by the tenderer will be opened first and evaluated for fulfilling the Pre Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer
- ii) In case the same qualifying experience is claimed by more than one agency, then the agency who has executed the work as per documentary evidence submitted shall only be qualified. Scope of qualifying work should be totally with the agency who has executed and in case it is only labour+consumables without T&P, then the responsibility of execution is assigned to the first agency and not to the agency who has executed only as labour supply contractor. Further, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iii) In case the qualifying experience is claimed by private organizations based on Work Order and completion certificates from another private organization, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job
- iv) Assessing Bidder Capacity for executing the current tender shall be as per Notice Inviting Tender
- v) Price Bids of shortlisted bidders shall only be opened either through the conventional price bid opening or through electronic Reverse Auction, at the discretion of BHEL
- vi) Price Bids of unqualified bidders shall not be opened. Reasons for rejection shall be intimated in due course after issue of LOI/LOA to successful bidder and receipt of unqualified acceptance from the successful bidder
- vii) Bidders are advised to also refer to clause no 2.9.4 regarding evaluation of their performance in ongoing projects for the current tender

1.7. DATA TO BE ENCLOSED

Full information shall be given by the tenderer in respect of the following. Non-submission of this information may lead to rejection of the offer.

- i) **INCOME TAX PERMANENT ACCOUNT NUMBER**
Certified copies of Permanent Account Numbers as allotted by Income Tax Department for the Company/Firm/Individual Partners, etc. shall be furnished along with tender.
- ii) **ORGANIZATION CHART**
The organization chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.
- iii) An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor
- iv) **IN CASE OF INDIVIDUAL TENDERER:**
His / her full name, address and place & nature of business.

v) **IN CASE OF PARTNERSHIP FIRM**

The names of all the partners and their addresses, A copy of the partnership deed/instrument of partnership dully certified by the Notary Public shall be enclosed.

vi) **IN CASE OF COMPANIES:**

- a. Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished).
- b. Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.

1.8 **AUTHORISATION AND ATTESTATION**

Tenders shall be signed by a person duly authorized/empowered to do so. An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor shall be submitted along with the tenders

1.9 **EARNEST MONEY DEPOSIT**

1.9.1 Every tender must be accompanied by the prescribed amount of Earnest Money Deposit (EMD) in the manner described herein.

- i) EMD shall be furnished along with the offer in full as per the amount indicated in the Special Conditions of Contract / NIT
- ii) EMD is to be paid in cash (as permissible under Income Tax Act), Pay order or Demand Draft in favour of 'Bharat Heavy Electricals Limited' and payable at Bangalore.
- iii) No other form of EMD remittance shall be acceptable to BHEL
- iv) Bidder may opt to deposit "One Time EMD" of Rs. 2.0 lakhs (Rupees Two lakhs only) with BHEL-Electronics Division, which will enable them to participate in all the future tender enquiries in respect of Erection and Commissioning services issued from the respective office. Interested bidders may clearly send their consent for converting the present EMD into a "One Time EMD" in their offer.
 - Note : The 'One Time EMD' cannot be withdrawn by the tenderers within 3 years from the date of deposit, under any circumstances. The Tenderer who wishes to withdraw after three years will not be allowed to submit 'One Time EMD' again.
- v) Bidders who have already deposited such "One Time EMD" of Rs. 2.00 lakh are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' certificate issued by BHEL Electronics Division shall be enclosed along with the offer.

1.9.2 EMD by the bidder will be forfeited as per Tender Documents if

- i) After opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted rates.
- ii) The bidder does not commence the work within the period as per LOI/Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.

1.9.3 EMD shall not carry any interest.

1.9.4 In the case of unsuccessful bidders, the Earnest Money will be refunded to them within a reasonable time after acceptance of award by successful tenderer.

1.10 SECURITY DEPOSIT

1.10.1 Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit for satisfactory completion of work, as per the rates given below:

SN	Contract Value	Security Deposit Amount
1	Up to Rs. 10 lakhs	10% of Contract Value
2	Above Rs. 10 lakhs upto Rs.50 lakhs	1 lakh + 7.5% of the Contract Value exceeding Rs. 10 lakhs.
3	Above Rs. 50 lakhs	Rs 4 lakhs + 5% of the Contract Value exceeding Rs. 50 lakhs.

1.10.2 The security Deposit should be furnished before start of the work by the contractor.

1.10.3 Security Deposit may be furnished in any one of the following forms

- i) Cash (as permissible under the Income Tax Act)
- ii) Pay Order / Demand Draft in favour of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats
- vi) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be deposited in any form as prescribed before start of the work and the balance 50% may be recovered from the running bills.
- viii) EMD of the successful bidder can be converted and adjusted against the cash portion of Security Deposit excepting for such bidders who have remitted One Time EMD.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

1.10.4 The Security Deposit shall not carry any interest.

1.10.5 In case the value of work exceeds / reduces from the awarded / accepted value, the Security Deposit shall be correspondingly enhanced / reduced as given below:

- i) The enhanced part of the Security Deposit shall be immediately deposited by the Contractor or adjusted against payments due to the Contractor.
- ii) There will be no reduction in Security Deposit value in case of variation in contract value upto the lower limit specified in Quantity variation clause. In case of reduction of contract value beyond the lower limit specified in Quantity Variation clause, then the Security Deposit shall be re adjusted in proportion.
- iii) In case of reduction, the reduced Contract value shall be certified by BHEL Construction Manager after ascertaining / freezing of BOQ / Drawings from the Design / Engineering Centre. The reduced

Security Deposit value can only be considered after taking into account the adequacy of the securities held by BHEL to meet the liabilities of the contractor for the contract, and the performance of the contract in general. **In such cases, the revised value of Security Deposit shall be worked out only after execution of not less than the lower limit of the revised scope of work/contract value as per quantity variation clause, and as certified by Construction Manager. This reduction in value of Security Deposit shall not entitle the contractor to any amendment of Contract and shall be operated at the discretion of BHEL**

- iv) Contract value for the purpose of operating the reduced/increased value of Security Deposit due to Quantity Variation, shall be exclusive of Price Variation Clause, Over Run Compensation and Extra works done on manday rates.

1.10.6 The validity of Bank Guarantees towards Security Deposit shall be initially upto the completion period as stipulated in the Letter of Intent/Award + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by BHEL

1.10.7 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL.

1.11 RETURN OF SECURITY DEPOSIT

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 BHEL under the contract / other contracts entered into with them by BHEL.

1.12 BANK GUARANTEES

Wherever Bank Guarantees are to be furnished/submitted by the contractor, the following shall be complied with

- i) Bank Guarantees shall be from Scheduled Banks / Public Financial Institutions as defined in the Companies Act.
- ii) The Bank Guarantees shall be as per prescribed formats.
- iii) It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period (subject to a minimum period of six months), as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.
- iv) In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly endorsed by the Construction Manager and submitted to the HQ issuing the LOI/LOA.
- v) In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- vi) Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.
- vii) The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due), addressed to the Subcontracting Department of the respective Unit.

1.13 VALIDITY OF OFFER

The rates in the Tender shall be kept open for acceptance for a minimum period of **SIX MONTHS** from latest due date of offer submission (including extension, if any) . In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

1.14 EXECUTION OF CONTRACT AGREEMENT

The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The Tenderer shall submit an unqualified acceptance to the Letter of Intent/Award within the period stipulated therein.

The successful tenderer shall be required to execute an agreement in the prescribed form, with BHEL, within a reasonable time after the acceptance of the Letter of Intent/Award, and in any case before releasing the first running bill. The contract agreement shall be signed by a person duly authorized/empowered by the tenderer. The expenses for preparation of agreement document shall be borne by BHEL

1.15 REJECTION OF TENDER AND OTHER CONDITIONS

1.15.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:-

- a. To reject any or all of the tenders.
- b. To split up the work amongst two or more tenderers as per NIT
- c. To award the work in part if specified in NIT
- d. In case of either of the contingencies stated in (b) and (c) above, the time for completion as stipulated in the tender shall be applicable.

1.15.2 Conditional tenders, unsolicited tenders, tenders which are incomplete or not in the form specified or defective or have been materially altered or not in accordance with the tender conditions, specifications etc., are liable to be rejected.

1.15.3 Tenders are liable to be rejected in case of unsatisfactory performance of the tenderer with BHEL, or tenderer under suspension (hold/banning /delisted) by any unit / region / division of BHEL or tenderers who do not comply with the latest guidelines of Ministry/Commissions of Govt of India. BHEL reserves the right to reject a bidder in case it is observed that they are overloaded and may not be in a position to execute this job as per the required schedule in line with clause no. 9.0 of the 'NIT'. The decision of BHEL will be final in this regard.

1.15.4 If a tenderer who is a proprietor expires after the submission of his tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of tender or after the acceptance of the tender, BHEL may then cancel such tender at their discretion, unless the firm retains its character.

1.15.5 BHEL will not be bound by any Power of Attorney granted by changes in the composition of the

firm made subsequent to the execution of the contract. They may, however, recognise such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.

- 1.15.6 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract if awarded and forfeit the Earnest Money/Security Deposit/any other money due.
- 1.15.7 Canvassing in any form in connection with the tenders submitted by the Tenderer shall make his offer liable to rejection.
- 1.15.8 In case the Proprietor, Partner or Director of the Company/Firm submitting the Tender, has any relative or relation employed in BHEL, the authority inviting the Tender shall be informed of the fact as per specified format, along with the Offer. Failing to do so, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.
- 1.15.9 The successful tenderer should not sub-contract part or complete work detailed in the tender specification undertaken by him without written permission of BHEL's Construction Manager/Site Incharge. The tenderer is solely responsible to BHEL for the work awarded to him.
- 1.15.10 The Tender submitted by a techno commercially qualified tenderer shall become the property of BHEL who shall be under no obligation to return the same to the bidder. However unopened price bids and late tenders shall be returned to the bidders
- 1.15.11 Unsolicited discount received after the due date and time of Bid Submission shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-1 party, then the awarded price i.e contract value shall be worked out after considering the discount so offered.
- 1.15.12 BHEL shall not be liable for any expenses incurred by the bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

CHAPTER-2

2.1 **DEFINITION:** The following terms shall have the meaning hereby assigned to them except where the context otherwise requires

- | | |
|-------|---|
| i) | BHEL shall mean Bharat Heavy Electricals Limited a company registered under Indian Companies Act 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI – 110 049, or its Electronics Division,Bangalore or its Authorised Officers or its Site Engineers or other employees authorised to deal with any matters with which these persons are concerned on its behalf. |
| ii) | “EXECUTIVE DIRECTOR” or ‘GROUP GENERAL MANAGER’ or “GENERAL MANAGER (Incharge)” or “GENERAL MANAGER” shall mean the Officer in Administrative charge of the Electronics Division,Bangalore. |
| iii) | “COMPETENT AUTHORITY” shall mean Executive Director or Group General Manager or General Manager (Incharge) or General Manager or BHEL Officers who are empowered to act on behalf of the Executive Director or General Manager (Incharge) or General Manager of BHEL. |
| iv) | “ENGINEER” or “ENGINEER IN CHARGE” shall mean an Officer of BHEL as may be duly appointed and authorized by BHEL to act as “Engineer” on his behalf for the purpose of the Contract, to perform the duty set forth in this General Conditions of Contract and other Contract documents. The term also includes ‘CONSTRUCTION MANAGER’ or ‘SITE INCHARGE’ as well as Officers at Site or at the Headquarters. |
| v) | “SITE” shall mean the places or place at which the plants/equipments are to be erected and services are to be performed as per the specification of this Tender. |
| vi) | “CLIENT OF BHEL” or “CUSTOMER” shall mean the project authorities with whom BHEL has entered into a contract for supply of equipments or provision of services. |
| vii) | “CONTRACTOR” shall mean the successful Bidder/Tenderer who is awarded the Contract and shall include the Contractor’s successors, heirs, executors, administrators and permitted assigns. |
| viii) | “CONTRACT” or “CONTRACT DOCUMENT” shall mean and include the Agreement of Work Order, the accepted appendices of Rates, Schedules, Quantities if any, General Conditions of Contract, Special Conditions of Contract, Instructions to the Tenderers, Drawings, Technical Specifications, the Special Specifications if any, the Tender documents, subsequent amendments mutually agreed upon and the Letter of Intent/Acceptance issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or subsequent letters shall not form part of the contract unless, specifically accepted in writing by BHEL in the Letter of Intent/Award and incorporated in the agreement. |
| ix) | “GENERAL CONDITIONS OF CONTRACT” shall mean the ‘Instructions to Tenderers’ and ‘General Conditions of Contract’ pertaining to the work for which above tenders have been called for. |
| x) | “TENDER SPECIFICATION” or “TENDER” or “TENDER DOCUMENTS” shall mean General Conditions, Common Conditions, Special Conditions, Price Bid, Rate Schedule, Technical |

	Specifications, Appendices, Annexures, Corrigendums, Amendments, Forms, procedures, Site information, etc and drawings/documents pertaining to the work for which the tenderers are required to submit their offers. Individual specification number will be assigned to each Tender Specification.
xi)	“LETTER OF INTENT” shall mean the intimation by a Letter/Fax/email to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all terms and conditions of the contract are applicable from this date.
xii)	“COMPLETION TIME” shall mean the period by ‘date/month’ specified in the ‘Letter of Intent/Award’ or date mutually agreed upon for handing over of the intended scope of work, the erected equipment/plant which are found acceptable by the Engineer, being of required standard and conforming to the specifications of the Contract.
xiii)	“PLANT” shall mean and connote the entire assembly of the plant and equipments covered by the contract.
xiv)	“EQUIPMENT” shall mean equipment, machineries, materials, structural, electricals and other components of the plant covered by the contract.
xv)	“TESTS” shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL, in order to ascertain the quality, workmanship, performance and efficiency of the contractor or part thereof.
xvi)	“APPROVED”, “DIRECTED” or “INSTRUCTED” shall mean approved, directed or instructed by BHEL.
xvii)	“WORK or CONTRACT WORK” shall mean and include supply of all categories of labour, specified consumables, tools and tackles and Plants required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipments to the entire satisfaction of BHEL.
xviii)	“SINGULAR AND PLURALS ETC” words carrying singular number shall also include plural and vice versa, where the context so requires. Words imparting the masculine Gender shall be taken to include the feminine Gender and words imparting persons shall include any Company or Associations or Body of Individuals, whether incorporated or not.
xix)	“HEADING” – The heading in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken as instructions thereof or of the contract.
xx)	“MONTH” shall mean calendar month unless otherwise specified in the Tender.
xxi)	Day’ or ‘Days’ unless herein otherwise expressly defined shall mean calendar day or days of twenty four (24) hours each. A week shall mean continuous period of seven (7) days.
xxii)	“ COMMISSIONING” shall mean the testing and achieving functional operation of the Equipment with associated system after all initial adjustments, trials, cleaning, re-assembly required at site if any, have been completed and Equipment with associated system is

	<p>ready for taking into service and handed over to respective O&M group. After Completion of all these activities M/s NPCIL will issue " Construction Completion Certificate" . Same certificate shall indicate completion of Commissioning.</p>
xxiii)	<p>"WRITING" shall include any manuscript type written or hand written or printed statement or electronically transmitted messages, under the signature or seal or transmittal of BHEL.</p>
xxiv)	<p>"TEMPORARY WORK" shall mean all temporary works for every kind required in or for the execution, completion, maintenance of the work.</p>
xxv)	<p>'CONTRACT PRICE' or 'CONTRACT VALUE' shall mean the sum mentioned in the LOI/LOA/Contract Agreement subject to such additions thereto or deductions there from as may be made under provisions hereinafter contained.</p>
xxvi)	<p>"COMMENCEMENT DATE" or "START DATE" shall mean the commencement/start of work at Site as per terms defined in the Tender.</p>
xxvii)	<p>"SHORT CLOSING" or "FORE CLOSING" of Contract shall mean the premature closing of Contract, for reasons not attributable to the contractor and mutually agreed between BHEL and the contractor.</p>
xxviii)	<p>"TERMINATION" of Contract shall mean the pre mature closing of contract due to reasons as mentioned in the contract.</p>
xxix)	<p>"DE MOBILISATION" shall mean the temporary winding up of Site establishment by Contractor leading to suspension of works temporarily for reasons not attributable to the contractor.</p>
xxx)	<p>"RE MOBILISATION" shall mean the resumption of work with all resources required for the work after demobilization.</p>
2.2	<p style="text-align: center;">LAW GOVERNING THE CONTRACT AND COURT JURISDICTION</p> <p>The contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court having original Civil Jurisdiction at Bangalore, shall alone have exclusive jurisdiction in regard to all claims in respect of the Contract. No other Civil Court shall have jurisdiction in case of any dispute, under this contract.</p>
2.3	<p style="text-align: center;">ISSUE OF NOTICE</p>
2.3.1	<p><u>Service of notice on contractor</u> Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by Registered Post / Speed Post to or leaving the same at the Contractor's last known address of the principal place of business (or in the event of the contractor being a company, to or at its Registered Office). In case of change of address, the notice shall be served at changed address as notified in writing by the Contractor to BHEL. Such posting or leaving of the notice shall be deemed to be good service of such notice and the time mentioned to the condition for doing any act after notice shall be reckoned from the date so mentioned in such notice.</p>
2.3.2	<p><u>Service of notice on BHEL</u> Any notice to be given to BHEL -EDN under the terms of the Contract shall be served by sending the same by post to or leaving the same at BHEL address or changed address as notified in writing by BHEL to the Contractor.</p>
2.4	<p style="text-align: center;">USE OF LAND</p> <p>No land belonging to BHEL or their Customer under temporary possession of BHEL shall be</p>

occupied by the contractor without written permission of BHEL.

2.5 COMMENCEMENT OF WORK

2.5.1 The contractor shall commence the work as per the time indicated in the Letter of Intent from BHEL and shall proceed with the same with due expedition without delay.

2.5.2 If the contractor fails to start the work within stipulated time as per LOI or as intimated by BHEL, then BHEL at its sole discretion will have the right to cancel the contract. The Earnest Money and/or Security Deposit with BHEL will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.

2.5.3 All the work shall be carried out under the direction and to the satisfaction of BHEL.

2.6 MEASUREMENT OF WORK AND MODE OF PAYMENT:

2.6.1 All payments due to the contractors shall be made by e mode only, unless otherwise found operationally difficult for reasons to be recorded in writing.

2.6.2 For progress running bill payments: - The Contractor shall present detailed measurement sheets in triplicate, duly indicating all relevant details based on technical documents and connected drawings for work done during the month/period under various categories in line with terms of payment as per contract. The basis of arriving at the quantities, weights shall be relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with BHEL Engineers and signed by both the parties.

2.6.3 These measurement sheets will be checked by BHEL Engineer and quantities and percentage eligible for payment under various groups shall be decided by BHEL Engineer. The abstract of quantities and percentage so arrived at based on the terms of payment shall be entered in Measurement Book and signed by both the parties.

2.6.4 Based on the above quantities, contractor shall prepare the bills in prescribed format and work out the financial value. These will be entered in Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.

2.6.5 All recoveries due from the contractor for the month/period shall be effected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.

2.6.6 Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.

2.6.7 The measurement shall be taken jointly by persons duly authorized on the part of BHEL and by the Contractor.

2.6.8 The Contractor shall bear the expenditure involved if any, in making the measurements and testing of materials to be used/used in the work. The contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.

2.6.9 If at any time due to any reason whatsoever, it becomes necessary to re-measure the work done in full or in part, the expenses towards such re measurements shall be borne by the contractor

unless such re measurements are warranted solely for reasons not attributable to contractor.

2.6.10 Passing of bills covered by such measurements does not amount to acceptance of the completion of the work measured. Any left out work has to be completed, if pointed out at a later date by BHEL.

2.6.11 Final measurement bill shall be prepared in the final bill format prescribed for the purpose based on the certificate issued by BHEL Engineer that entire works as stipulated in tender specification has been completed in all respects to the entire satisfaction of BHEL. Contractor shall give unqualified "No Claim" Certificate. All the tools and tackles loaned to him should be returned in satisfactory condition to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Books and signed by both parties to the contract. The Final Bill shall be prepared and paid within a reasonable time after completion of work.

2.7 RIGHTS OF BHEL

BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation.

2.7.1 To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through other agencies to suit BHEL's commitment to its customer or in case BHEL decides to advance the date of completion due to other emergent reasons/ BHEL's obligation to its customer.

2.7.2 To terminate the contract or get any part of the work done through other agency or deploy BHEL's own/hired/otherwise arranged resources , at the risk and cost of the contractor after due notice of a period of two weeks by BHEL, in the event of:-

- i) Contractor's continued poor progress
- ii) Withdrawal from or abandonment of the work before completion of the work
- iii) Contractor's inability to progress the work for completion as stipulated in the contract
- iv) Poor quality of work
- v) Corrupt act of Contractor
- vi) Insolvency of the Contractor
- vii) Persistent disregard to the instructions of BHEL
- viii) Assignment, transfer, sub-letting of contract without BHEL's written permission
- ix) Non fulfillment of any contractual obligations
- x) In the opinion of BHEL, the contractor is overloaded and is not in a position to execute the job as per required schedule

2.7.3 To meet the expenses including BHEL overheads on the differential cost at 5%, over and above the Liquidated damages/penalties arising out of "Risk & Cost" as explained above under SI.No. 2.7.2. BHEL shall recover the amount from any money due from Contractor, or from any money due to the Contractor including Security Deposit, or by forfeiting any T&P or material of the contractor under this contract or any other contract of BHEL or by any other means or any combination thereof

2.7.4 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason, as per mutual agreement.

- 2.7.5 To effect recovery from any amounts due to the contractor under this or any other contract or in any other form, the moneys BHEL is statutorily forced to pay to anybody, due to contractor's failure to fulfill any of his obligations. BHEL shall levy overheads of 5% on all such payments along with interest as defined elsewhere in the GCC.
- 2.7.6 While every endeavour will be made by BHEL to this end, they cannot guarantee uninterrupted work due to conditions beyond their control. The Contractor will not be normally entitled for any compensation/extra payment on this account unless otherwise specified elsewhere in the contract.
- 2.7.7 In case the execution of works comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than two months, due to reasons not attributable to the contractor and other than Force Majeure conditions, BHEL may consider permitting the contractor to demobilize forthwith and remobilize at an agreed future date. Cost of such demobilization/remobilization shall be mutually agreed. ORC in such cases shall not be applicable for the period between the period of demobilization and remobilization. The duration of contract/time extension shall accordingly get modified suitably. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.
- 2.7.8 In the unforeseen event of inordinate delay in receipt of materials, drawings, fronts, etc, due to which inordinate discontinuity of work is anticipated, BHEL at its discretion may consider contractor's request to short close the contract in following cases:
- a) The balance works (including but not limited to Trial Operation, PG Test, etc) are minor vis a vis the scope of work envisaged as per the contract.
 - b) There has been no significant work in past 6 months OR no significant work is expected in next 6 months (example in projects where work has stopped due to reasons beyond the control of BHEL)
 - c) The balance works cannot be done within a reasonable period of time as they are dependent on unit shutdown or on other facilities of customer or any other reasons not attributable to the contractor
- At the point of requesting for short closure, contractor shall establish that he has completed all works possible of completion and he is not able to proceed with the balance works due to constraints beyond his control. In such a case, the estimated value of the unexecuted portion of work (or estimated value of services to be provided for carrying out milestone/stage payments like Trial Operation/PG Test, etc) as mutually agreed, shall however be reduced from the final contract value.
- 2.7.9 **LIQUIDATED DAMAGES/PENALTY**
- 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, BHEL 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. For this purpose, the period of delay shall be the delay attributable to the Contractor for the completion of work as per contract. Contract Value for this purpose, shall be the final executed value exclusive of ORC, Extra Works executed on Manday rate basis, Supplementary/Additional Items and PVC.

2.8 RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.

The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. The subcontractor shall fully indemnify BHEL against any claims of whatsoever nature arising due to the failure of the contractor in discharging any of his responsibilities hereunder:

- 2.8.1 As far as possible, Unskilled Workers shall be engaged from the local areas in which the work is being executed.
- 2.8.2 The contractor at all times during the continuance of this contract shall, in all his dealings with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.
- 2.8.3 The contractor shall comply with all applicable State and Central Laws, Statutory Rules, Regulations etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employers Provident Act, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act 1970, Payment of Bonus & Gratuity Act and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at Site. The Contractor shall also give to the local Governing Body, Police and other relevant Authorities all such notices as may be required by the Law.
- 2.8.4 The contractor shall obtain independent License under the Contract Labour (Regulations and Abolition Act, 1970) as required from the concerned Authorities based on the certificate (Form-V) issued by the Principal Employer/Customer
- 2.8.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, tolls, royalties, commission or other charges which may be leviable on account of his operations in executing the contract.
- 2.8.6 All arrangements for site visits periodically by the Inspectorate to site, Inspection certificate etc. will have to be made by contractor. However, BHEL will not make any payment to the Inspectorate in connection with contractor's Welders/Electricians qualification tests etc.
- 2.8.7 Contractor shall be responsible for provision of Health and Sanitary arrangements (more particularly described in Contract Labour Regulation & Abolition Act), Safety precautions etc. as may be required for safe and satisfactory execution of contract.
- 2.8.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for personnel employed by him.
- 2.8.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 2.8.10 The contractor shall ensure that no damage is caused to any person/property of other parties working at site. If any such damage is caused, it is responsibility of the contractor to make good the losses or compensate for the same.

- 2.8.11 All the properties/equipments/components of BHEL/their Client loaned with or without deposit to the contractor in connection with the contract shall remain properties of BHEL/their Client.
- 2.8.12 The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipments/components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hours to the contrary. The contractor shall return them in good condition as and when required by BHEL/their Client. In case of non-return, loss, damage, repairs etc, the cost thereof as may be fixed by BHEL Engineer will be recovered from the contractor
- 2.8.13 In case the contractor is required to undertake any work outside the scope of this contract, the rates payable shall be those mutually agreed upon if the item rates are not mentioned in existing contract
- 2.8.14 Any delay in completion of works/or non achievement of periodical targets due to the reasons attributable to the contractor, the same may have to be compensated by the contractor either by increasing manpower and resources or by working extra hours and/or by working more than one shift. All these are to be carried out by the contractor at no extra cost.
- 2.8.15 The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.
- 2.8.16 All safety rules and codes applied by the Client/BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment/material and works to be performed by him and shall maintain all light, fencing guards, slings etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards. Due precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of Clerical staff, watch and ward, store keepers to take care of equipment/materials and construction tools and tackles shall be posted at site by the contractor till the completion of work under this contract.
- The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per prescribed standards and practices.
- Contractor has to ensure the implementation of Health, Safety and Environment (HSE) requirements as per directions given by BHEL/Customer. The contractor has to assist in HSE audit by BHEL/Customer and submit compliance Report. The contractor has to generate and submit record/reports as per HSE plan/activities as per instruction of BHEL/Customer
- 2.8.17 The contractor will be directly responsible for payment of wages to his workmen. A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representative should be furnished to BHEL site for record purpose, if so called for.
- 2.8.18 In case of any class of work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 2.8.19 Also, no idle charges will be admissible in the event of any stoppage caused in the work resulting in

contractor's labour and Tools & Plants being rendered idle due to any reason at any time.

- 2.8.20 The contractor shall take all reasonable care to protect the materials and work till such time the plant/equipment has been taken over by BHEL or their Client whichever is earlier.
- 2.8.21 The contractor shall not stop the work or abandon the site for whatsoever reason of dispute, excepting force majeure conditions. All such problems/disputes shall be separately discussed and settled without affecting the progress of work. Such stoppage or abandonment shall be treated as breach of contract and dealt with accordingly
- 2.8.22 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.
- 2.8.23 The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.
- 2.8.24 The Contractor to note that some of BHEL's T&Ps/MMDs may not be insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

2.9 PROGRESS MONITORING, MONTHLY REVIEW AND PERFORMANCE EVALUATION

- 2.9.1 A detailed plan/programme for completion of the contractual scope of work as per the time schedule given in the contract shall be jointly agreed between BHEL and Contractor, before commencement of work . The above programme shall be supported by monthwise deployment of resources viz Manpower, T&P, Consumables, etc. Progress will be reviewed periodically (Daily/Weekly/Monthly) vis a vis this jointly agreed programme. The Contractor shall submit periodical progress reports (Daily/Weekly/Monthly) and other reports/information including manpower, consumables, T&P mobilization etc as desired by BHEL.
- 2.9.2 Monthly progress review between BHEL and Contractor shall be based on the agreed programme as above, availability of inputs/fronts etc, and constraints if any, as per prescribed formats. Manpower, T&P and consumable reports as per prescribed formats shall be submitted by contractor every month. Release of RA Bills shall be contingent upon certification by BHEL Site Engineer of the availability of the above prescribed formats duly filled in and signed.
- 2.9.3 The burden of proof that the causes leading to any shortfall is not due to any reasons attributable to the contractor is on the contractor himself. The monthly progress review shall record shortfalls attributable to (i) Contractor, (ii) Force Majeure Conditions, and (iii) BHEL
- 2.9.4 Performance of the Contractor shall be assessed as per prescribed formats and shall form the basis for 'Annual/Overall Performance Evaluation' of the Contractor and also for 'Assessment of

Capacity of Bidder' for Tenders where the Contractor is a bidder. BHEL reserves the right to revise the evaluation formats during the course of execution of the works

2.10 TIME OF COMPLETION

- 2.10.1 The time schedule shall be as prescribed in the Contract. The time for completion shall be reckoned from the date of commencement of work at Site as certified by BHEL Engineers
- 2.10.2 The entire work shall be completed by the contractor within the time schedule or within such extended periods of time as may be allowed by BHEL under clause 2.11

2.11 EXTENSION OF TIME FOR COMPLETION

- 2.11.1 If the completion of work as detailed in the scope of work gets delayed beyond the contract period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the Contract.
- 2.11.2 Based on the monthly reviews jointly signed, the works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.
- 2.11.3 However if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take at the risk and cost of contractor.
- 2.11.4 A joint programme shall be drawn for the balance amount of work to be completed during the period of 'Time Extension', along with matching resources (with weightages) to be deployed by the contractor as per specified format. Review of the programme and record of shortfall shall be done every month of the 'Time extension' period in the same manner as is done for the regular contract period.
- 2.11.5 During the period of 'Time extension', contractor shall maintain their resources as per mutually agreed program
- 2.11.6 At the end of total work completion as certified by BHEL Engineer, and upon analysis of the total delay, the portion of time extensions attributable to (i) Contractor, (ii) Force majeure conditions, and (iii) BHEL, shall be worked out and shall be considered to be exhausted in the same order. The total period of time extensions shall be the sum of (i), (ii) and (iii) above and shall be equal to period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/levied for the portion of time extensions attributable to contractor and recoverable from the dues payable to the contractor.

2.12 OVERRUN COMPENSATION

- 2.12.1 Over Run Compensation (ORC) is payable for works done during the extension period, by way of rate revisions for periods beyond original contract period subject to the following terms and conditions.
- 2.12.2 Rates shall be increased by 10% for the first twelve months of one or more extensions beyond original contract period. For the next twelve months of further extensions if any, rates shall be increased as above by 10% over the previous twelve months, and similarly for each subsequent twelve months extension.
- 2.12.3 The amount of increase payable per month due to rate revisions is subject to a minimum of Rs 1,00,000/- per month and a maximum of Rs 10,00,000/- per month.

- 2.12.4 Should there be any 'Time extension' for reasons attributable only to the contractor, then the work shall be executed by the contractor at the rates applicable for the period the work was planned
- 2.12.5 Payment of ORC shall be regulated as follows:
- i) Contractor is entitled to Over Run Compensation (ORC) only for the portion of backlog attributable to BHEL.
 - ii) 50% of the compensation as per clause 2.12.3 is allocated for deployment of resources agreed as per the joint programme drawn vide 2.11.4. Payment shall however be based on the actual deployment of resources for the month as certified by BHEL, as per weightages assigned therein
 - iii) 50% of the compensation as per clause 2.12.3, is allocated for achieving of planned progress agreed as per the joint programme drawn vide 2.11.4. Payment shall be on pro rata basis for actual achieved quantities
 - iv) Total Over Run Compensation shall be limited to 10% of the executed contract value as certified in Final Bill. For this purpose executed contract value excludes PVC, ORC, Supplementary/Additional Items and Extra Works done on Manday rate basis
- 2.12.6 Contractor shall not be entitled for any Over Run Compensation (ORC) for the portion of backlog attributable to the contractor. Such works shall be executed at the rates applicable for the period the work was planned

2.13 INTEREST BEARING RECOVERABLE ADVANCES

- 2.13.1 Normally no advance is payable to the contractor. However, advance payment in exceptional circumstances shall be interest bearing and secured through a Bank Guarantee and shall be limited to a maximum of 5% of contract value. This 'Interest Bearing Recoverable Advance' shall be payable in not less than two installments with any of the installment not exceeding 60% of the total eligible advance.
- 2.13.2 In exceptional circumstances, with due justification, Competent Authority of BHEL is empowered to approve proposals for payment of additional interim interest bearing advance against Bank Guarantee, for resource augmentation towards expediting work for project implementation.
- 2.13.3 Bank Guarantee towards 'Interest Bearing Recoverable Advance' shall be atleast 110% of the advance so as to enable recovery of not only principle amount but also the interest portion, if so required.
- 2.13.4 Contractor shall establish the utilization of advance drawn before the release of next installment.
- 2.13.5 Payment and recovery of Interest Bearing Recoverable advance shall be at the sole discretion of BHEL and shall not be a subject matter of arbitration.
- 2.13.6 The rate of interest applicable for the above advances shall be the prime lending rate of State Bank of India prevailing at the time of disbursement of the advance + 2%, and such rate will remain fixed till the total advance amount is recovered
- 2.13.7 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 80% of contract value.
- 2.13.8 Recovery rate per month shall be the sum of:
- a. Not less than 10% of Running Bill amount

b. Simple interest up to the date of RA Bill on the outstanding Principle amount/amounts

2.13.9 Contractor to submit Bank Guarantee as per prescribed formats for each of the advance and shall be valid for at least one year or the recovery duration or the balance contract period which ever is later. In case the recovery of dues does not get completed within the aforesaid BG period, the contractor shall renew the BG or submit fresh BG for the outstanding amount and the remaining recovery period.

2.13.10 BHEL is entitled to make recovery of the entire outstanding amount in case the contractor fails to comply with the BG requirement

2.14 QUANTITY VARIATION

2.14.1 The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 15% of awarded contract value

2.14.2 Compensation due to variation of final executed value in excess of the limits defined in clause above, shall be as follows:

- i) In case the finally executed contract value reduces below the lower limit of Contract Value due to quantity variation specified above, the contractor will be eligible for compensation @ 15% of the difference between the lower limit of the contract value and the actual executed value.
- ii) In case the finally executed contract value increases above the upper limit of Contract Value due to quantity variation specified above, there will be no revision in the rates within the contract period.

2.15 EXTRA WORKS

2.15.1 All rectifications/modifications, revamping, and reworks required for any reasons not due to the fault of the contractor, or needed due to any change in deviation from drawings and design of equipments, operation/maintenance requirements, mismatching, or due to damages in transit, storage and erection/commissioning, and other allied works which are not very specifically indicated in the drawings, but are found essential for satisfactory completion of the work, will be considered as extra works.

2.15.2 Extra works arising on account of the contractor's fault, irrespective of time consumed in rectification of the damage/loss, will have to be carried out by the contractor free of cost. Under such circumstances, any material and consumable required for this purpose will also have to be arranged by the contractor at his cost.

2.15.3 All the extra work should be carried out by a separately identifiable gang, without affecting routine activities. Daily log sheets in the pro-forma prescribed by BHEL should be maintained and shall be signed by the contractor's representative and BHEL engineer. No claim for extra work will be considered/entertained in the absence of the said supporting documents i.e. daily log sheets. Signing of log sheets by BHEL engineer does not necessarily mean the acceptance of such works as extra works.

2.15.4 BHEL retains the right to award or not to award any of the major repair/rework/modification/rectification/fabrication works to the contractor, at their discretion without assigning any reason for the same

2.15.5 After eligibility of extra works is established and finally accepted by BHEL engineer/designer, payment will be released on competent authority's approval at the following rate.

MAN-HOUR RATE FOR ELIGIBLE EXTRA WORKS: Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework/ repairs/ rectification/ modification/ fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at Rs 60/- per man hour.

2.15.6 The above composite labour man hour rate towards extra works shall remain firm and not subject to any variation during execution of the work. PVC will not be applicable for extra works. Rate revision, Over Run Charges/compensation etc will not be applicable due to extra works.

2.15.7 **Extra Works for Civil Packages** shall be regulated as follows

- i) 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:
 - a) 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.
 - b) As per CPWD-DSR-2012 (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
 - c) Item rates are to be worked out on the basis of prevailing market rates mutually agreed between BHEL and Contractor, plus 15% towards Contractor's overheads and profit.
- ii) PVC and ORC will not applicable be for (i) above.

2.16 **SUPPLEMENTARY ITEMS**

2.16.1 **For NON Civil Works**

Supplementary items are items/works required for completion of entire work but not specified in the scope of work. Subject to certification of such items/works as supplementary items by BHEL Engineer, rates shall be derived on the basis of any one of the following on mutual agreement:

- i) Based on percentage breakup/rates indicated for similar/nearby items
- ii) In case (i) above does not exist, then BHEL/site may derive the percentage breakup/rates to suit the type of work

2.16.2 **For Civil Works**

- i) 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 BHEL Engineer shall be worked out as under:
 - a) 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
 - b) 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 2.15.7
- ii) Execution of Supplementary Works/Additional Works through the Contractor shall be at the sole discretion of BHEL, and shall be considered as part of executed contract value for the purpose of Quantity Variation as per clause 2.14
- iii) BHEL Engineer's decision regarding fixing the rate as above is final and binding on the contractor.
- iv) PVC and ORC will not be applicable for (i) above.

2.17 PRICE VARIATION COMPENSATION

Contractor to note that all quoted prices shall be firm price. No compensation due to Price Variation (PVC) is applicable.

PVC clause, if mentioned anywhere shall be considered as Not Applicable and to be ignored.

2.18 INSURANCE

2.18.1 BHEL/their customer shall arrange for insuring the materials/properties of BHEL/customer covering the risks during transit, storage, erection and commissioning.

2.18.2 It is the sole responsibility of the contractor to insure his materials, equipments, ALL workmen(Should cover under Workman compensation), etc. against accidents and injury while at work and to pay compensation, if any, to workmen as per **Workmen's compensation Act**. The work will be carried out in a protected area and all the rules and regulations of the client /BHEL in the area of project which are in force from time to time will have to be followed by the contractor.

2.18.3 If due to negligence and or non-observation of safety and other precautions by the contractors, any accident/injury occurs to the property / manpower belong to third party, the contractor shall have to pay necessary compensation and other expense, if so decided by the appropriate authorities.

2.18.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss due to theft or otherwise till the same is taken over by BHEL or customer. For lodging / processing of insurance claim the contractor will submit necessary documents. BHEL will recover the loss including the deductible franchise from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody , matter shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance. However this will not relieve the contractor of his contractual obligation for the material in his custody.

2.19 STRIKES & LOCKOUT

2.19.1 The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, BHEL shall have the right to get the work executed through any other agencies and the cost so incurred by BHEL shall be deducted from the Contractor's bills.

2.19.2 For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL

2.20 FORCE MAJEURE

The following shall amount to Force Majeure:-

2.20.1 Acts of God, act of any Government, War, Sabotage, Riots, Civil commotion, Police action, Revolution, Flood, Fire, Cyclones, Earth quake and Epidemic and other similar causes over which the contractor has no control.

2.20.2 If the contractor suffers delay in the due execution of the contractual obligation due to delays caused by force majeure as defined above, the agreed time of completion of the job covered by this contract or the obligations of the contractor shall be extended by a period of time equal to period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes of delay and the contractor shall not be eligible for any compensation.

2.21 **ARBITRATION & RECONCILIATION**

2.21.1 In case amicable settlement is not reached in the event of any dispute or difference arising out of the execution of the Contract or the respective rights and liabilities of the parties or in relation to interpretation of any provision by the Contractor in any manner touching upon the Contract, such dispute or difference shall (except as to any matters, the decision of which is specifically provided for therein) be referred to the sole arbitration of the arbitrator appointed by BHEL. The award of the Arbitrator shall be binding upon the parties to the dispute

Subject as aforesaid, the provisions of Arbitration and Reconciliation Act 1996 (India) or statutory modifications or re enactments thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine

2.21.2 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable :

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred to by either party to the arbitration of one of the arbitrators in the department of public enterprises. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the parties hereto finally and conclusively.

2.21.3 The cost of arbitration shall be borne equally by the parties.

2.21.4 Work under the contract shall be continued during the arbitration proceedings

2.22 **RETENTION AMOUNT**

2.22.1 Retention Amount shall be 5% of executed contract value and shall be recovered at the rate of 5% from each Running Bill admitted, including PVC Bills.

2.22.2 Refund of Retention Amount shall be as follows:

- i) 50% of retention amount along with 'Final Bill'
- ii) Balance 50% of retention amount shall be retained towards "Performance Guarantee for Workmanship" and shall be refunded along with the payment to be made after completion of Contractual obligation subject to fulfillment of other criteria as specified under section 2.24.

2.23 PAYMENTS

Payments to Contractors are made in any one of the following forms

2.23.1 Running Account Bills (RA Bills)

- i) These are for interim payments when the contracts are in progress. The bills for such interim payments are to be prepared by Contractor in prescribed formats (RA Bill forms).
- ii) Payments shall be made according to the extent of work done as per measurements taken up to the end of the calendar month and in line with the terms of payments described in the Tender documents
- iii) Recoveries on account of electricity, water, statutory deductions, etc are made as per terms of contract
- iv) Full rates for the work done shall be allowed only if the quantum of work has been done as per the specifications stipulated in the contract. If the work is not executed as per the stipulated specifications, BHEL may ask the contractor to re do the work according to the required specifications, without any extra cost. However, where this is not considered necessary 'OR' where the part work is done due to factors like non-availability of material to be supplied by BHEL 'OR' non availability of fronts 'OR' non availability of drawings, fraction payment against full rate, as is considered reasonable, may be allowed with due regard for the work remaining to be done. BHEL decision in this regard will be final and binding on the contractor.
- v) In order to facilitate part payment, BHEL Site Engineer at his discretion may further split the contracted rates/percentages to suit site conditions, cash flow requirements according to the progress of work

2.23.2 Final Bill

Final Bill' is used for final payment on closing of Running Account for works or for single payment after completion of works. 'Final Bill' shall be submitted as per prescribed format after completion of works as per scope and upon material reconciliation, along with the following.

- i) 'No Claim Certificate' by contractor
- ii) Clearance certificates where ever applicable viz Clearance Certificates from Customer, various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department, etc
- iii) Indemnity bond as per prescribed format

BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL

2.24 PERFORMANCE GUARANTEE FOR WORKMANSHIP

2.24.1 Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done till it is handed over to M/s NPCIL and "Erection Completion Certificate" is issued by M/s and shall rectify free of cost all defects due to faulty erection detected during this period. In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the Contractor's risk and cost, without prejudice to any other rights and recover the same from the Guarantee money.

2.24.2	BHEL shall release the guarantee money subject to the following i) Contractor has submitted 'Final Bill' ii) Guarantee period as per contract has expired iii) Contractor has furnished 'No Claim Certificate' in specified format iv) BHEL Site Engineer/Construction Manager has furnished the 'No Demand Certificate' in specified format v) Contractor has carried out the works required to be carried out by him during the period of Guarantee and all expenses incurred by BHEL on carrying out such works is included for adjustment from the Guarantee money refundable.
2.25	CLOSING OF CONTRACTS The Contract shall be considered completed and closed upon completion of all contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a completion certificate as per standard format, based on specific request of Contractor.
2.26	REVERSE AUCTION: BHEL reserves the right to go for Reverse Auction for Price Bid Opening by BHEL appointed service provider, instead of opening the submitted sealed price bid in the conventional way. The Business Rules for Reverse Auction shall be as per BHEL guidelines issued from time to time.
2.27	SUSPENSION OF BUSINESS DEALINGS BHEL reserves the right to take action against Contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time.
2.28	OTHER ISSUES
2.28.1	Value of Non judicial Stamp Paper for Bank Guarantees and for Contract Agreement shall be not less than Rs 100/- unless otherwise required under relevant statutes.
2.28.2	In case of any conflict between the General Conditions of Contract and Special Conditions of Contract, provisions contained in the Special Conditions of Contract shall prevail.
2.28.3	Unless otherwise specified in NIT, offers from consortium/JVs shall not be considered.
2.28.4	BHEL may not insist for signing of Contract Agreements in respect of low value and short time period contracts like providing services for Hot water flushing, Chemical Cleaning, Transportation, etc

REV.00

24TH JULY
2013

VOLUME - ID FORMS & PROCEDURES

(Document No. BHEL:EDN:CCIP:CNI:F&P REV.00
DT 24/07/2013)

**BHARAT HEAVY ELECTRICALS LIMITED
ELECTRONICS DIVISION, BANGALORE**



FORMS & PROCEDURES

INDEX

SN	Description	Form No	Remarks
1.0	Forms		
1.1	Offer forwarding Letter/Submission of Tender	F-1 (Rev 00)	
1.2	Declaration by Authorised Signatory	F-2 (Rev 00)	
1.3	No Deviation Certificate	F-3 (Rev 00)	
1.4	Declaration confirming knowledge about Site Conditions	F-4 (Rev 00)	
1.5	Declaration for relation in BHEL	F-5 (Rev 00)	
1.6	Non Disclosure Certificate	F-6 (Rev 00)	
1.7	Bank Account Details for E-Payment	F-7 (Rev 00)	
1.8	Form for seeking clarifications	F-8 (Rev 00)	
1.9	Capacity Evaluation of Bidder for current Tender	F-9 (Rev 00)	
1.10	Contract Agreement	F-10 (Rev 00)	
1.11	Bank Guarantee for Security Deposit	F-11 (Rev 00)	
1.12	Bank Guarantee for Interest Bearing Refundable Advance	F-12 (Rev 00)	
1.13	Extension of Validity of Bank Guarantee	F-13 (Rev 00)	
1.14	Monthly Plan & Review with Contractors	F-14 (Rev 00)	
1.15	Monthly Performance Evaluation of Contractor	F-15 (Rev 01)	
1.16	VOID		
1.17	Evaluation of Contractor Performance (Annual)	F-17 (Rev --)	Will be released later
1.18	Evaluation of Contractor Performance for the Contract (Overall)	F-18 (Rev --)	Will be released later
1.19	Milestone Completion Certificate	F-19 (Rev 00)	
1.20	Completion Certificate	F-20 (Rev 00)	

FORMS & PROCEDURES

SN	Description	Form No	Remarks
1.21	Indemnity Bond	F-21 (Rev 00)	
1.22	Consortium Agreement	F-22 (Rev 00)	
1.23	Refund of Security Deposit	F-23 (Rev 00)	
1.24	Refund of Guarantee Money	F-24 (WAM-11)	
1.25	Power of Attorney for Submission of Tender/Signing Contract Agreement	F-25 (Rev 00)	
1.26	Analysis of Unit Rates Quoted	F-26 (Rev 00)	
1.27	RA Bill Format	WAM-6	
1.28	Final Bill Submission format with No Claim Certificate and No Demand Certificate	WAM-7	
1.29	Solvency Certificate Format and list of Banks	F-29 (Rev 00)	
1.30			
2.0	Procedures		
2.1	Procedure and Business Rules for Reverse Auction	As per Company Policy	
2.2	Integrity Pact	As per Company Policy	
3.0	Customer specific procedures	To be included later	
3.1			

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited, Electronic Division, Bangalore, in accordance with the terms and conditions thereof.

I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Amendments/Clarifications/Corrigenda/Errata/etc issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. Price Bid
4. Technical Conditions of Contract
5. Special Conditions of Contract
6. General Conditions of Contract
7. Forms and Procedures

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Security Deposit' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have deposited/depositing herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check List.

Authorised Representative of Bidder

Signature :

Name :

Address :

Place:

Date:

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration by Authorised Signatory**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized
Signatory of the Bidder)

Date:

Enclosed : Power of Attorney

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact (if applicable) and acceptance to Reverse Auctioning process.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS
(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration confirming knowledge about Site conditions**

Ref : 1) NIT/Tender Specification No:,
2) All other pertinent issues till date

I/We, _____ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Location of various work places, site specific requirements and rules and regulations, available facilities, Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of Authorized
Representative of the Bidder)

Date :

Place:

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:

I/We hereby submit the following information pertaining to relation/relatives of Proprieter/Partner(s)/Director(s) employed in BHEL

Tick(✓) any one as applicable:

1. The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprieter, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorised Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.

NON DISCLOSURE CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

NON DISCLOSURE CERTIFICATE

I/We understand that BHEL-Electronics Division,Bangalore is committed to Information Security Management System as per their Information Security Policy.

Hence, I/We M/s.....
who are submitting offer for providing services to BHEL- Electronics
Division,Bangalore against Tender Specification
No:_____, hereby undertake to
comply with the following in line with Information Security Policy of BHEL
Electronics Division,Bangalore

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL Electronics Division,Bangalore.

(Signature, date & seal of Authorized
Signatory of the bidder)

Date:

BANK ACCOUNT DETAILS FOR E-PAYMENT

(To be given on Letter head of the Company /Firm of Bidder, and **ENDORSED (SIGNED & STAMPED) BY THE BANK** to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS)

1. Beneficiary Name :
2. Beneficiary Account No. :
3. Bank Name & Branch :
4. City/Place :
5. 9 digit M ICR Code of Bank Branch :
6. IFSC Code of Bank Branch :
7. Beneficiary E-mail ID :
(for payment confirmation)

NOTE: In case Bank endorsed certificate regarding above has already been submitted earlier, Kindly submit photocopy of the same

FORMAT FOR SEEKING CLARIFICATION

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Request for Clarification**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

Sl no	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				
4				
5				
6				

Yours faithfully,

(Signature, date & seal of Authorized Representative of the Bidder)

CAPACITY EVALUATION OF BIDDERS FOR CURRENT TENDER

SL NO.	DESCRIPTION OF WORK (Similar to Tendered Scope)	WORK ORDER REF & DATE	CONTRACT VALUE (Rs. LACS)	CUSTOMER NAME & ADDRESS	CURRENT STATUS OF THE JOB ALONG WITH LATEST MILE STONE COMPLETED	%AGE OF WORK COMPLETE D	VALUE OF BALANCE WORK (Rs. Lacs)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

NOTES:

1. BIDDERS ARE REQUIRED TO FURNISH ALL THE JOBS OF SIMILAR NATURE WHICH THEY ARE EXECUTING (IN PROGRESS) AT THE TIME OF SUBMISSION OF TENDER, AS PER ABOVE FORMAT.
2. BIDDERS HEREBY UNDERTAKE THAT THEY HAVE FURNISHED THE DETAILS SOUGHT AS PER POINT NO. 1 IN TOTALITY AND THAT THE DETAILS FURNISHED IS COMPLETE IN ALL RESPECT.
3. BHEL WILL TAKE APPROPRIATE ACTION AS DEEMED FIT , IN CASE, IT IS FOUND AT A LATER DATE THAT THE CONTRACTOR HAD SUPPRESSED THE FACTS AND HAVE NOT FURNISHED THE CORRECT & COMPLETE INFORMATIONS.

DATE :

PLACE:

Signature

Name, Designation & Seal of Bidder

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
Electronics Division
P.B.No. 2606, Mysore Road
Bangalore-560026

CONTRACT AGREEMENT

AGREEMENT NO. _____

NAME OF WORK	
NAME OF THE CONTRACTOR WITH FULL ADDRESS	
VALUE OF WORK AWARDED	
LETTER OF INTENT NO.	
TIME ALLOTTED FOR COMPLETING THE WORK (DATE OF COMPLETION)	

SIGNATURE OF CONTRACTOR

(SIGNATURE OF BHEL OFFICER)

CONTRACT AGREEMENT

THIS AGREEMENT MADE THIS _____ DAY OF _____ between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi-110049 (herein after called BHEL) of the ONE PART.

AND

M/S _____
_____ (hereinafter called the 'Contractor') of the SECOND PART.

WHEREAS M/s -----state that they have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for execution of ----- the contractor submitted their offer No.-----dated -----And whereas BHEL has accepted the offer of the Contractor on terms and conditions specified in the Letter of Intent No.-----dated -----read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated ----- and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.
3. The Contractor has furnished a Bank Guarantee bearing no.-----dated -----for a sum of Rs.-----executed by ----- in favour of BHEL towards Security Deposit valid upto -----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs.-----in the form of cash / approved Securities/ B.G No.----- dated ----- for Rs.-----executed by ----- in favour of BHEL valid upto ----- and has agreed for recovery of the balance security deposit by BHEL @ 10% of the value of work done from each running bill till the entire Security Deposit is recovered.

OR

The contractor has furnished to BHEL an initial Security Deposit of Rs.-----(Rs.-----vide Bank draft No.-----dated -----and by adjusting EMD of Rs.----- submitted vide Bank draft No.----- dt.-----) and has agreed for recovery of balance Security Deposit by BHEL @ 10% of the value of work done from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such further period or periods as may be required by BHEL and if the Contractor fails to obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept recovery of Rs.----- from the bills in one installment and the contractor further agrees that failure to extend the validity of the Bank Guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum of Rs.-----

OR

In case the contractor furnishes the bank guarantee at a later date the contractor hereby agrees to extend the validity of bank guarantee for such further period or periods as may be required by BHEL and if the contractor fails to obtain such extension(s) from the bank, the contractor shall pay forthwith or accept recovery of the amount of bank guarantee given in lieu of security deposit from the bills in one installment and the contractor further agrees that failure to extend the validity of bank guarantee or failure to pay the aforesaid amount in the manner specified above shall constitute breach of contract. In addition to above, BHEL shall be entitled to take such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in accordance with this Agreement the Contractor hereby covenants and undertakes with BHEL that they shall execute, construct, complete the works in conformity, in all respects, with the terms and conditions specified in this Agreement and the documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and the documents governing the same and also to have satisfied himself as to the nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to the entire satisfaction of the Engineer or such other officer authorised by BHEL, within the agreed time schedule, the time of completion being the essence of the Contract.
8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of

CONTRACT AGREEMENT

Form No: F-10 (Rev 00)

- consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.
14. That it is hereby agreed by and between the parties that non- exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.
15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.
16. The following documents
1. Invitation to Tender No-----
and the documents specified therein.
 2. Contractor's Offer No-----
dated-----.
 3. _____
 4. _____
 5. _____
 6. Letter of Intent No _____ dated _____.
 7. _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

- 1.
- 2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

WITNESS

- 1.
- 2.

(For and on behalf of BHEL)

BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made this ----- day of -----two thousand ---- by <Name and Address of Bank> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its unit at Bharat Heavy Electricals Limited, **Electronics Division,PB No. 2606,Mysore Road ,Bangalore**, hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns)

WHEREAS < Contractor's Name and Address> (hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no. < LOI REF & Date > (hereinafter referred to as "the contract") for < Name of Work > with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.---- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forebear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

BANK GUARANTEE FOR SECURITY DEPOSIT

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- (Rupees-----). Our guarantee shall remain inforce until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before ----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at Nagpur only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the ----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

=====
===

Notes :

1. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
2. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted under sealed cover.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

B.G. No.

Date

This deed of Guarantee made this _____ day of _____ two thousand _____ by < **Name and Address of Bank**> hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/S Bharat Heavy Electricals Limited a Company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, New Delhi - 110049 through its unit at Bharat Heavy Electricals Limited, **Electronics Division, PB No. 2606, Mysore Road ,Bangalore**, hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns).

WHEREAS M/s. _____ (hereinafter referred to as the Contractor) have entered into a Contract arising out of Letter of Intent no. _____ dtd _____ (hereinafter referred to as "the Contract") for the < **Name of work**> with the Company.

AND WHEREAS the Contract inter-alia provides that the Company will pay to the Contractor interest bearing advance of Rs. _____ (Rupees _____ only) on certain terms and conditions specified in the Contract subject to the Contractor furnishing a Bank Guarantee for Rs. _____ (Rupees _____ only) in favour of the Company.

AND WHEREAS the Company has agreed to accept a Bank Guarantee from a Bank to cover the said advance.

AND WHEREAS the Contractor has approached the Guarantor and in consideration of the arrangement arrived at between the Contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the Company.

NOW THIS DEED WITNESSES AS FOLLOWS:-

- (1) In consideration of the Company having agreed to advance a sum of Rs. _____ (Rupees _____ only) to the Contractor, the Guarantor do hereby guarantee the due recovery by the Company of the said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilise the said advance for the purpose of the Contract and /or the said advance together with interest as aforesaid is not fully recovered by the Company the Guarantor do hereby unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of the said sum of Rs. _____ (Rupees _____ only) any claim made by the Company on them for the loss or damage caused to or suffered by the Company by reasons of the Company not being able to recover in full the advance with interest as aforesaid.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

-
- (2) The decision of the Company whether the Contractor has failed to utilise the said advance or any part thereof for the purpose of the Contract and / or as to the extent of loss or damage caused to or suffered by the Company by reason of the Company not being able to recover in full the said sum of Rs. _____ with interest if any shall be final and binding on the Guarantor, irrespective of the fact whether the Contractor admits or denies the default or questions the correctness of any demand made by the Company in any Court Tribunal or Arbitration proceedings or before any other Authority.
- (3) The Company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the Contract or extend time of performance by the Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the Contractor and either enforce or forebear from enforcing any of the terms and conditions governing the Contract or securities available to the Company and the Guarantor shall not be released from its liability under these presents by any exercise by the Company of the liberty with reference to the matters aforesaid or by reasons of time being given to the Contractor or any other forbearance, act or commission on the part of the Company or any indulgence by the Company to the Contractor or of any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.
- (4) The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period till the Company discharges this Guarantee, subject to however, that the Company shall have no claim under this Guarantee after _____ i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.
- (5) The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the Contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.
- (6) It shall not be necessary for the Company to proceed against the Contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealised.
- (7) Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs. _____ (Rupees _____). Our guarantee shall remain in force until _____, i.e. the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time. Unless a claim or demand under this guarantee is made against us on or before-----, we shall be discharged from our liabilities under this Guarantee thereafter.

BANK GUARANTEE FOR INTEREST BEARING REFUNDABLE ADVANCE

- (8) Any claim or dispute arising under the terms of this document shall only be enforced or settled in the courts at **Bangalore** only.
- (9) The Guarantor hereby declares that it has power to execute this Guarantee under its Memorandum and Articles of Association and the executant has full powers to do so on its behalf under the Power of Attorney dated _____ (To be incorporated by the Bank) granted to him by the proper authorities of the Guarantor.

IN WITNESS whereof the _____(Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

(Name of the Bank)

Signed for and on behalf of the Bank
(Designation of the Authorized Person Signing the Guarantee)

(Signatory No.-----)

DATED:

SEAL

=====
Notes :

- 1. The BG shall be executed on non-judicial stamp papers of adequate value procured in the name of the Bank in the State where the Bank is located.
- 2. The BG is required to be sent by the executing Bank directly to BHEL at the address where tender is submitted / accepted, under sealed cover.

FORM for EXTENSION OF VALIDITY OF BANK GUARANTEE

1. To be typed on non judicial Stamp Papers of value as applicable in the State of India from where the BG has been issued or the State of India where the BG shall be operated
2. The non judicial stamp papers shall be purchased in the name of the Party on whose behalf the BG is being issued or the BG issuing Bank

BANK GUARANTEE No:

Date:.....

To

(Write Designation and Address of Officer of BHEL inviting the Tender)

Dear Sir

Sub : Validity of Bank Guarantee No:..... Dated for
..... Rs in favour of yourself, expiry date
....., on account of M/s in respect
of Contract Number....., (herein after called the Original bank
Guarantee)

At the request of M/s....., we
Bank, having its branch Office at and having
Head office at, do hereby extend our liability under the above mentioned
Bank Guarantee number..... dated for a further period of
.....Months/years from to expire on

Except as provided above, all other terms and conditions of the Original Bank Guarantee
No Dated..... shall remain unaltered and binding on us.

Kindly treat this extension as an integral part of the original Bank Guarantee to which it
would be attached.

Yours faithfully

Signature.....
Name & Designation.....
Power of Attorney/Signing Power No
Seal of Bank



**MONTHLY PLAN & REVIEW WITH
CONTRACTOR**

Page 2 of 5

CONTRACTOR:

PART – B-1 REVIEW OF DEPLOYMENT OF MAJOR T&Ps

SUPPLIER SCOPE:-

SN.	MAJOR T&P TO BE DEPLOYED AS PER WORK PLANNED FOR THE MONTH	QTY.	DEPLOYMENT STATUS (ACTUAL DEPLOYED)	REMARKS (WORKS EFFECTED DUE TO NON-DEPLOYMENT OF T&Ps)

BHEL SCOPE:-

CONTRACT NO:

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



**MONTHLY PLAN & REVIEW WITH
CONTRACTOR**

Page 3 of 5

CONTRACTOR:

PART – B-2 REVIEW OF DEPLOYMENT OF MANPOWER

SUPPLIER SCOPE:-

SNO.	AREA OF WORK	CATEGORY OF LABOUR	NO. OF LABOUR REQUIRED AS PER CATEGORY	DEPLOYED FOR THE PERIOD	REMARKS (WORKS AFFECTED DUE TO NON-AVAILABILITY OF LABOUR)

CONTRACT No.:**Date of Report:**

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



MONTHLY PLAN & REVIEW WITH CONTRACTOR

Page 4 of 5

PART C1 : PLAN FOR THE NEXT MONTH (PHYSICAL)

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY (EXCLUDING SHORTFALLS ATTRIBUTABLE TO CONTRACTOR TILL DATE)	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

PART C2: PLAN FOR THE NEXT MONTH (OTHERS)

SL NO.	DESCRIPTION OF WORK (Area Wise)	PLANNED MT/ % / QTY	T&Ps REQUIRED	MANPOWER REQUIRED	REMARKS

NOTE: USE SEPARATE SHEETS, IF REQUIRED

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)



MONTHLY PLAN & REVIEW WITH
CONTRACTOR

Page 5 of 5

BHEL
(Sign with name, designation and date)

CONTRACTOR
(Sign with name, designation and date)

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 1 of 8

Project	Vendor	Parameter for Measurement	Vendor		Package & Unit		Supporting Documents
			Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	
SL							
#1.01	QUALITY	Cumulative number of days in the month, the nominated Quality Officer or his authorised nominee was not available	0.35		Quality Officer or his authorised nominee should be available for all the days	Daily Log Book entry/Incident Registers/letter references	
#1.02	QUALITY	Shortfall in number of weekly Quality meetings in the month, not conducted or not attended by Quality officer or his authorised nominee	0.7		Quality meetings to be held every week	Daily Log Book entry/Incident Registers/letter references	
#1.03	QUALITY	Level of compliance wrt decisions taken in previous Quality meetings	0.35		Number of consolidated issues discussed in Quality meetings	Daily Log Book entry/Incident Registers/letter references	
#1.04	QUALITY	Number of batches of welding electrodes, cement, sand, aggregate, consumable, Paints etc as applicable for which test certificates not submitted OR MM & MH pkg:) In case of MM & MH package, monthly checks	0.375		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#1.05	QUALITY	Number of incidences of improper storage of inflammable gases and liquids, fuel etc	0.35		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#1.06	QUALITY	Total number of complaints in the month on non-preservation of materials under the custody of the contractor / erected in his scope.	0.35		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#1.07	QUALITY	Cumulative number of days in the month delayed due to poor organisation/planning of works at site.	0.625		Cumulative number of days delayed	Daily Log Book entry/Incident Registers/letter references	
#1.08	QUALITY	Total number of rework instances in a month necessitated due to improper works/procedures by contractor	0.625		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#1.09	QUALITY	Total number of complaints received in the month on the quality of finish / aesthetics	0.65		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#1.10	QUALITY	Total number of instances in the month, House keeping NOT attended to inspite of instructions by BHEL -ie removal / disposal of surplus earth / debris / scrap / unused / surplus cable drums / other electrical items / surplus steel items / packing materials, thrown out scrap like weld butts, cotton waste etc from the working area to identified locations	0.625		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 2 of 8

Project	Vendor	Parameter for Measurement	Vendor		Package & Unit		Supporting Documents
			Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	
SL #2.01	PERFORMAN CE	Number of times the workplan submitted FOR THE NEXT MONTH is REJECTED for not being supported with proper T&P (major) and Manpower.	3.47		Number of rejections	Daily Log Book entry/Incident Registers/letter references	
#2.02	PERFORMAN CE	Number of times the Work plan (unloading and storage plans in case of MM & MH packages) is not supported by relevant construction/layout drawings - like A4 plan / elevation views of plan status for structures / pressure parts/Civil Works, Piping isometrics for piping, Layout / PID / System reference sketch, Unloading/storage plans etc as applicable for the works planned	3.47		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references	
#2.03	PERFORMAN CE	Cumulative number of days of delay in submission of plan FOR THE NEXT MONTH supported by deployment plan of Major T&Ps and Manpower (as per C-1 & C-2 of Format F-14)	1.73		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references	
#2.04	PERFORMAN CE	Percentage of delayed submission of Daily Reports for Progress, Labour etc	1.87		Percentage of daily reports delayed/Scheduled date is each day for the previous day	Daily Log Book entry/Incident Registers/letter references	
#2.05	PERFORMAN CE	Number of days delayed for submission of log sheets / protocols / Monthly Progress reports for the work executed during the month under measurement	0.93		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references	
#2.06	PERFORMAN CE	Shortfall attributable to contractor as a percentage of what is clearly executable (in line with Terms of payment) by contractor as per the plan (part-A of F-14) for the subject month	20.67		Percentage calculated as per part-A of F-14	Progress review formats	
#2.07	PERFORMAN CE	Cumulative number of days in the month for which feedback/briefing on plans for the day and the progress of previous day was not given to BHEL	2.67		Cumulative number of days for which briefing or feedback not given/each day for the previous day	Daily Log Book entry/Incident Registers/letter references	
#2.08	PERFORMAN CE	Cumulative number of major instances in the month hampering/affecting progress of work due to improper management of labour and T&P at site leading to slowed progress of work or extended the completion of works	3.47		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references	

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Project	Vendor	Parameter for Measurement	Vendor		Package & Unit	Supporting Documents
			Max Score	Score Obtained		
SL	Classification	Parameter for Measurement	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
#2.09	PERFORMAN CE	Cumulative number of days of work lost due to interface issues with fellow contractors/ customers leading to stoppage / delay in works, attributable to the contractor	1.73		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.10	PERFORMAN CE	Number of times the commitments on augmentation of resources as per plan for the month have slipped	3.47		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.11	PERFORMAN CE	Number of days the submission of Running bills for the month are delayed	0.93		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.12	PERFORMAN CE	Number of days the supporting documents for the Running bills submitted for the month are delayed	0.93		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#2.13	PERFORMAN CE	Number of times updations were not carried out in maintenance of records in PC in a form approved by BHEL at site (as applicable for respective packages).	1.33		Cumulative number of days updation not carried out/	Daily Log Book entry/Incident Registers/letter references
#2.14	PERFORMAN CE	Number of times the Top Management of contractor did not respond to critical issues of site, for the month	3.47		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.15	PERFORMAN CE	Number of refusals for improvement/remedial measures suggested by BHEL	0.67		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.16	PERFORMAN CE	Cumulative number of days in the month the works were stopped / refused on interpretation of contract clauses/scope due to tendency of taking undue advantage by interpreting contract clauses in their favour	2.67		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#2.17	PERFORMAN CE	Number of times rework refused	1.73		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#2.18	PERFORMAN CE	Cumulative number of days in the month recording/logging was not done in daily log/ history register / hindrance register maintained at BHEL Site Office	1.33		Cumulative number of days recording or logging was not done/all days of the month	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Project	Vendor	Parameter for Measurement	Package & Unit			Supporting Documents
			Max Score	Score Obtained	Measurement Key/Scheduled date	
SL						
#2.19	PERFORMAN CE	Erection Agency: Cumulative number of major instances in the month hampering/affecting progress of work due to delayed or non-deployment of separate gang for material handling works OR <u>MM</u> Agency: Cumulative number of major instances in the month hampering/affecting erection work due to not identifying or not locating or not retrieving of materials required by erection agency	3.47		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.01	RESOURCES	Number of days of delay in submission of PLAN vis a vis ACTUAL deployment of Manpower for the month under review (as per part B-2 of F-014)	1.5		Number of days delayed/ Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#3.02	RESOURCES	Number of days of non-availability of supporting staff at office for submission of required reports/documentation as required for the contract	1.5		Cumulative number of days supporting staff not available	Daily Log Book entry/Incident Registers/letter references
#3.03	RESOURCES	Number of days of delay in submission of PLAN vs ACTUAL deployment of major T&P for the month under review (as per B-1 of F-14)	2.5		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#3.04	RESOURCES	Cumulative number of major instances in the month hampering/affecting progress of work due to non availability of operator /fuel in contractor's scope for Major T&P and MME	2.5		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.05	RESOURCES	Cumulative number of major instances in the month hampering/affecting progress of work due to breakdown or non availability of major T&P and MME for the work	2.5		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.06	RESOURCES	Cumulative number of major instances in the month hampering/affecting progress of work due to non-availability of proper T&P/MME (number, capacity adequacy, and working condition) under the scope of contractor	2.5		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#3.07	RESOURCES	Number of times Contractor's T&P (items common to BHEL and Contractor) was NOT made available before requesting for the same T&P from BHEL	2.5		Total number of requests from contractor	Daily Log Book entry/Incident Registers/letter references
#3.08	RESOURCES	Cumulative number of major instances in the month hampering/affecting progress of work due to non-availability of Consumables under the scope of contractor	2.5		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 5 of 8

Project	Vendor	Parameter for Measurement	Vendor		Package & Unit	Supporting Documents
			Max Score	Score Obtained		
SL	Classification	Parameter for Measurement			Measurement Key/Scheduled date	Supporting Documents
#3.09	RESOURCES	Cumulative number of days in the month lost due to use of improper consumables like electrodes, gases, Cement, sand, etc as applicable	2		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#4.01	SITE INFRASTRUCTURE & SERVICE	Number of deviations from the site organisation report submitted initially wrt deployment for the current month affecting work progress.	0.94		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#4.02	SITE INFRASTRUCTURE & SERVICE	Cumulative number of days in the month lost due to delayed renewal in respect of Labour licence, Insurance, electrical licence, factory inspector etc as applicable	0.94		Cumulative number of days lost	Daily Log Book entry/Incident Registers/letter references
#4.03	SITE INFRASTRUCTURE & SERVICE	Number of non-compliances of Statutory requirements like validity of Labour Licence, Labour Insurance, PF, etc and any other applicable Regulation	0.5		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#4.04	SITE INFRASTRUCTURE & SERVICE	Cumulative number of days in a month poor illumination is reported at storage area, erection area, pre-assy area and other designated areas by BHEL site.	0.44		Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.05	SITE INFRASTRUCTURE & SERVICE	Number of days of non-availability of well maintained toilets facilities for workers (separate for men and women)	0.44		Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.06	SITE INFRASTRUCTURE & SERVICE	Number of days of non-availability of potable drinking water stations for workers in specified areas.	0.44		Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.07	SITE INFRASTRUCTURE & SERVICE	If applicable as per contract, Provision of Water meter for each point of distribution and cumulative number of days of non-submission of water consumption / non-working of water meter	0.44		Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 6 of 8

Project	Vendor	Parameter for Measurement	Score		Package & Unit	Supporting Documents
			Max Score	Score Obtained		
SL					Measurement Key/Scheduled date	
#4.08	SITE INFRASTRUCTURE & SERVICE	Provision of Energy meter for each point of distribution and cumulative number of days of non-submission of energy consumption / non-working of energy meter	0.44		Total number of non compliances/random checks	Daily Log Book entry/Incident Registers/letter references
#4.09	SITE INFRASTRUCTURE & SERVICE	Commitment of Top Management of Contractor for welfare of labour	0.44		Percentage of welfare activities done	Daily Log Book entry/Incident Registers/letter references
#5.01	SITE FINANCE	Number of days delayed in making labour payments of the last month	2.14		Number of days delayed/Scheduled date is 10th day of the month succeeding the month under reference	Daily Log Book entry/Incident Registers/letter references
#5.02	SITE FINANCE	Number of complaints from sub supplier for non receipt of payments	1.43		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#5.03	SITE FINANCE	Number of times the site operations are hampered for want of funds at the disposal of site-in-charge.	1.43		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.01	HSE & SA	Cumulative number of days in a month the nominated Safety Officer or his authorised nominee is not available	0.5		Safety Officer or his authorised nominee should be available for all the days	Daily Log Book entry/Incident Registers/letter references
#6.02	HSE & SA	Shortfall in number of weekly safety meetings in the month conducted or attended by the Safety Officer or his authorised nominee	0.25		Safety meetings to be held every week	Copy of Minutes of meeting
#6.03	HSE & SA	Level of compliance wrt decisions taken in previous Safety meetings	0.25		Number of consolidated issues discussed in Safety meetings	Daily Log Book entry/Incident Registers/letter references
#6.04	HSE & SA	Delay in submission of monthly report on safety in the prescribed form	0.25		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#6.05	HSE & SA	Number of days taken for lodging FIRs from date of occurrence/notice of incident of theft / accident etc	0.25		Number of days delayed/Scheduled date is the next date of occurrence/notice of incidence	Copy of FIR lodged by Contractor

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Form No: F-15 (Rev 01)

Page 7 of 8

Project	Vendor	Parameter for Measurement	Score		Package & Unit	Supporting Documents
			Max Score	Score Obtained		
SL	Classification	Parameter for Measurement		Score Obtained	Measurement Key/Scheduled date	Supporting Documents
#6.06	HSE & SA	Number of times warnings issued for using scaffoldings other than steel	0.25		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.07	HSE & SA	Number of times punitive fines imposed for not complying with use of PPE	0.375		Total number of non compliances	Non-compliance intimation documents from BHEL site
#6.08	HSE & SA	Number of times punitive fines imposed for unsafe practices	0.345		Total number of non compliances	Copy of fine intimation documents from BHEL site
#6.09	HSE & SA	Delay in number of days in submission of monthly report on provisions, maintenance and validity of fire extinguishers	0.25		Number of days delayed/Scheduled date is first working day of next month	Daily Log Book entry/Incident Registers/letter references
#6.10	HSE & SA	Delay in number of days in submission of monthly report on provisions and maintenance of Electrical Safety for Equipments	0.25		Number of days delayed/Scheduled date is first working day of next month	copy of report
#6.11	HSE & SA	Delay in number of days in submission of monthly report on provisions and maintenance of proper ELCBs for Electrical Safety of Personnel.	0.25		Number of days delayed/Scheduled date is first working day of next month	copy of report
#6.12	HSE & SA	Number of times the agency has defaulted on display of safety posters / safety slogans / safety barriers/emergency numbers etc in identified areas	0.25		Total number of non compliances	Non-compliance intimation documents from BHEL site
#6.13	HSE & SA	Non compliances observed during HSE and Safety Audit	0.25		Total number of non compliances	Daily Log Book entry/Incident Registers/letter references
#6.14	HSE & SA	Cumulative number of days in the month, First Aid Kits were not maintained at designated places at site	0.25		Cumulative number of days	Non-compliance intimation documents from BHEL site
#6.15	HSE & SA	Cumulative number of days in the month, there was non-availability of Ambulance or Emergency vehicle (whichever applicable) at Site.	0.25		Cumulative number of days Ambulance or Emergency vehicle not available	Daily Log Book entry/Incident Registers/letter references
#6.16	HSE & SA	Number of days taken for submission of Root Cause analysis (RCA) for the accident /theft/ incidence from the cut off date intimated by BHEL for submission of RCA NOTE: Occurrences of last month to be accounted for in the evaluating month)	0.25		Number of days delayed/Scheduled date is 7th day of occurrence or notice of incidence NOTE: Occurrences of last month to be accounted for in the evaluating month)	Daily Log Book entry/Incident Registers/letter references

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MONTHLY PERFORMANCE EVALUATION OF CONTRACTOR

Project	Vendor	Package & Unit				
		Parameter for Measurement	Classification	Max Score	Score Obtained	Measurement Key/Scheduled date	Supporting Documents
SL #6.17	HSE & SA	Cumulative number of days in the month Women labour were deployed for office or site works during night hours (anytime between 18.00 hrs to 08.00 hrs)	HSE & SA	0.25		Daily Log Book entry/Incident Registers/letter references
#6.18	HSE & SA	Cumulative number of days in the month children under the age of 18 years were deployed for office or site works	HSE & SA	0.25		Daily Log Book entry/Incident Registers/letter references

Performance Score Summary for the Month		
	Total score	Score Obtained
QUALITY	5	
PERFORMANCE	60	
RESOURCES	20	
SITE INFRASTRUCTURE & SERVICE	5	
SITE FINANCE	5	
HSE & SA	5	
OTHERS	0	
TOTAL	100	0

Name and Signature of BHEL Package Incharge

Name and Signature of Contractor

MILESTONE COMPLETION CERTIFICATE
(issued by BHEL on the specific request of Contractor)

 Ref :

Date:

To,

(Name & address of Contractor)

Dear Sir,

References

1. Contract No:
2. Job Description:

This is to hereby confirm that the following Milestone Activity has been achieved in respect of the Contract /Job under reference

SI No	Milestone Activity	Remarks

This certificate is issued as per your request vide letter no
 without any prejudice to the rights of BHEL in line with the terms and conditions of the
 above referred Contract

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

Construction Manager/Head (Subcontracts)

CONTRACT COMPLETION CERTIFICATE
(Issued by BHEL/HQ on the specific request of Contractor)

Ref :

Date:

To Whom so ever it may concern

1	DESCRIPTION OF WORK	
2	NAME AND ADDRESS OF THE CONTRACTOR	
3	CONTRACT NO	
4	CONTRACT VALUE	
5	LETTER OF INTENT NO & DATE	
6	CONTRACT PERIOD//CONTRACT DURATION	
7	DATE OF START/COMPLETION	
8	FINAL EXECUTED VALUE	
9	PERFORMANCE	GOOD SATISFACTORY UNSATISFACTORY

This certificate is issued as per your request vide letter no
without any prejudice to the rights of BHEL to use this certificate for evaluation of your offers for future tenders

Yours faithfully,

For and on behalf of Bharat Heavy Electricals Limited

DGM(CCIP)

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

 This Indemnity Bond executed by <name of company> having their Registered Office at <xxxxxxxxxxx> in favour of M/s Bharat Heavy Electricals Limited, a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 through its Unit **Electronics Division, PB No. 2606, Mysore Road ,Bangalore, Karnataka State.** (Hereinafter referred to as the Company)

And whereas the Company has entered into a Contract with M/s xxxxxxxxx, the executants of this Deed (hereinafter referred to as the Contractor) as its contractor in respect of the work of "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx".

AND WHEREAS under the provisions of GCC further stipulates that the Contractor shall indemnify the Company against all claims of whatever nature arising during the course of execution of Contract including defects liability period of <xx Months > i.e till <xx xx xxxx>

Now this deed witness that in case the Company is made liable by any Authority including Court to pay any claim or compensation etc. in respect of all labourers or other matters at any stage under or relating to the Contract with the Contractor , the Contractor hereby covenants and agrees with the Company that they shall indemnify and reimburse the Company to the extent of such payments and for any fee, including litigation charges, lawyers' fees, etc, penalty or damages claimed against the Company by reason of the Contractor falling to comply with Central/States Laws, Rules etc, or his failure to comply with Contract (including all expenses and charges incurred by the Company).

The Contractor further indemnifies the Company for the amount which the Company may be liable to pay by way of penalty for not making deductions from the Bills of the Contractor towards such amount and depositing the same in the Government Treasury.

The Contractor further agree that the Company shall be entitled to with hold and adjust the Security Deposit and/or with hold and adjust payment of Bills of

INDEMNITY BOND

(To be executed on a Non Judicial Stamp Paper of the requisite value as per Stamp Duty prevalent in the respective State)

Contractor pertaining to this Contract against any payment which the Company has made or is required to make for which the Contractor is liable under the Contract and that such amount can be withheld, adjusted by the Company till satisfactory and final settlement of all pending matters and the Contractor hereby gives his consent for the same.

The Contractor further agrees that the terms of indemnity shall survive the termination or completion of this contract.

The contractor further agrees that the liability of the contractor shall be extended on actual basis notwithstanding the limitations of liability clause, in respect of :

1. breach of terms of contract by the contractor
2. breach of laws by the contractor
3. breach of Intellectual property rights by the contractor
4. breach of confidentiality by the contractor

Nothing contained in this deed, shall be construed as absolving or limiting the liability of the Contractor under said Contract between the Company and the Contractor. That this Indemnity Bond is irrevocable and the condition of the bond is that the Contractor shall duly and punctually comply with the terms and the conditions of this deed and contractual provisions to the satisfaction of the Company.

In witness where of M/s xxxxxxxxxxxx these presents on the day, month and year first, above written at xxxxxxxx by the hand of its signatory Mr. xxxxxxxxxxxx.

Signed for and on behalf of
M/s xxxxxxxxxxxxxxxxx

Witness:

- 1
- 2

CONSORTIUM AGREEMENT

(To be executed on Rs. 50/- Non – Judicial Stamp Paper)

THIS AGREEMENT is made and executed on this _____ day of _____, by and between (1) M/s _____, (The First Party, i.e, the Bidder) a company incorporated under the Company's Act 1956, having its registered office at _____(herein after called the "Bidder", which expression shall include its' successors, administrators, executors and permitted assigns) and (2) M/s _____, (The Second Party, i.e, the associates), a company incorporated under the Company's Act 1956, having its registered office at _____ (herein after called the " Associates", which expression shall include its' successors, administrators, executors and permitted assigns).

WHEAEAS the Owner, Bharat Heavy Electricals Ltd, a Government of India Undertaking, proposes to issue / issued an NIT (herein after referred to as the said NIT) inviting bids from the individual Bidders for undertaking the work _____ of _____, at _____ (herein after referred to as the said works).

WHEREAS the said NIT enables submission of a bid by a Consortium subject to fulfillment of the stipulations specified in the said NIT.

AND WHEREAS M/s _____ (The First Party, i.e, the Bidder) will submit its proposal in response to the aforesaid invitation to bid by the Owner for _____ as detailed in the Bid doc. no. < TENDER REF----->

AND WHEREAS M/s _____ (The First Party, i.e the Bidder) itself is meeting all the qualifying requirements except the qualifying requirements of _____ (as detailed in the NIT) and in order to fully meet the qualifying requirements of NIT, this tie-up agreement is being entered into with M/s _____ (The Second Party, the Associates) , who fully meet the balance part of the said works (_____).

WHEREAS the First Party and the Second Party are contractors engaged in the business of carrying out various items of works. WHEREAS the two parties have agreed to constitute themselves into a consortium for the purpose of carrying out the said works, and that the consortium will be continued till the completion of the works in all respects.

WHEREAS the parties have agreed to certain terms and conditions in this regard:

CONSORTIUM AGREEMENT

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS :

1. First and Second parties hereby constitute themselves into a Consortium for the purpose of bidding and undertaking the said works pursuant to the said NIT as hereinafter stated.
2. The First Party will be the leader (Lead Partner) and will be responsible for the entire works.

CONSORTIUM AGREEMENT

3. The First Party shall undertake the following part(s) of work detailed in the NIT namely

4. The Second Party shall undertake the following part(s) of work detailed in the said NIT namely

5. The parties hereby declare and confirm that each of them will fulfill the required minimum qualifying requirements as prescribed in the said NIT for the works agreed to be undertaken by them as stated here-in-above.
6. It is also agreed between the parties hereto that all of them shall be individually and severally responsible for the completion of the said works as per the schedule. Further, if the Employer/Owner sustains any loss or damage on account of any breach of the Contracts, we the, Consortium partners individually and severally undertake to promptly indemnify and pay such losses / damages caused to the Employer/Owner on its written demand without any demur, reservation, contest or protest in any manner whatsoever.
7. The parties hereby agree and undertake that they shall provide adequate finances, suitable Tools, Plants, Tractors, Trailers, other transportation equipment, other Tools & Plants, Measuring & Monitoring Equipments (MMEs), Men and Machinery etc. for the proper and effective execution of the works to be undertaken by them as specified here-in-above.
8. It is agreed interse between the parties hereto that all the consequences liabilities etc., arising out of any default in the due execution of the said works shall be borne by the party in default, that is by party in whose area of works default has occurred, provided

CONSORTIUM AGREEMENT

however, so far as M/s Bharat Heavy Electricals Limited is concerned, all the parties shall be liable jointly and severally.

IN WITNESS HEREOF the parties above named have signed this agreement on the day month and year first above written at _____(Place) .

WITNESS

For

1. NAME
2. OFFICIAL ADDRESS

(FIRST PARTY)

WITNESS

For

1. NAME
2. OFFICIAL ADDRESS

(SECOND PARTY)

[The successful bidder shall have to execute the " JOINT DEED OF UNDERTAKING " in the format to be made available by BHEL at the time of awarding].

REFUND OF SECURITY DEPOSIT

To,

The Construction Manager
BHEL Site Office

Dear Sir,

Sub : **Refund of Security Deposit**

Ref : Contract No:

Work:.....

I/We have submitted Final Bill in respect of the above Contract/Work vide our letter no:..... dated In line with Tender conditions (GCC clause no 1.11), kindly arrange to release/refund the Security Deposit along with Final Bill payments.

The details of Security Deposit are as below:

1. Cash Portion :
2. BG Portion :

Thanking You

Date: _____

Authorised representative of
Contractor

To be filled up by BHEL

1. Security Deposit to be refunded:
 - a. Cash Portion:
 - b. BG Portion :
2. Less
 - a. Amount spent by BHEL on behalf of Contractor:
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Other recoveries for Services etc
 - d. Any other recoveries
 - e. Total of 'a' to 'd':
3. Net Amount to be released (1-2) :
4. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Contract Guarantee period of Months commenced wef : _____
 - c. All objections raised so far have been settled
 - d. A note for refund of Security Deposit has been made in the Measurement Book

Signature of BHEL Engineer

Construction Manager

Date:-----

REFUND OF GUARANTEE MONEY

BHARAT HEAVY ELECTRICALS LIMITED
 Electronics Division
 P.B.No. 2606, Mysore Road
 Bangalore-560026

Ref No:

Date:

1. Name and Address of Contractor :
2. Contract Agreement/LOI No :
3. Date of Contract Agreement/LOI :
4. Name of the Work undertaken :
5. Date of commencement of the Work :
6. Date of Completion of the Work :
7. Period of Maintenance :
(Guarantee Period)
8. Date on which the Final Bill was paid :
9. Last date of making good the defect :
during Maintenance Period
10. Expenditure incurred by BHEL during :
Maintenance Period, if any, recoverable
11. Date on which Guarantee Money refund:
falls due as per Contract
12. Amount of Guarantee Money to be refunded:
13. Less Amounts recoverable (with details)
 - a. Amount spent by BHEL on maintenance :
 - b. Payments made by BHEL on behalf of Contractor:
 - c. Court dues/penalties/compensation :
 - d. Other recoveries for Services, etc :
 - e. Total of 'a' to 'd' :
14. Net Amount recommended for release (12-13) :

Signature of BHEL Engineer

Date: _____

REFUND OF GUARANTEE MONEY

BHARAT HEAVY ELECTRICALS LIMITED
 Electronics Division
 P.B.No. 2606, Mysore Road
 Bangalore-560026

CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR

I/We have no claim or demand outstanding against BHEL _____, for the work done or for labour or material supplied or any other account arising out of or connected with the Contract Agreement/LOI (No _____ dated _____) and the payment of this bill shall be in full and final settlement of all my/our claims and demands including the 'Deposits' of the Contract Agreement/LOI referred to.

Signature of Contractor

Date:

CERTIFICATE TO BE FURNISHED BY SENIOR ENGINEER/CONSTRUCTION MANAGER

1. Certified that
 - a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor
 - b. Maintenance period (Contract Guarantee period) is over and the Contractor has carried out the works required to be carried out by him during the period of maintenance (Guarantee) to our satisfaction, and all expenses incurred by the Company on carrying out such works have been included for adjustment
 - c. All objections raised so far have been settled
 - d. A note for refund of Guarantee Amount has been made in the Measurement Book and Contract Agreement/Work Order

Signature of BHEL Engineer

Construction Manager

Date:-----

FOR USE IN ACCOUNTS DEPARTMENT

Passed for Rs _____ (Rupees _____
 only)

Accountant

Accounts Officer

ACKNOWLEDGE BY THE CONTRACTOR

Received Rs _____ in full and final settlement of my/our claim

Signature of Contractor

Date:

POWER OF ATTORNEY for SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT

(To be typed on non judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr , whose signature given below herewith to be true and lawful Attorney of M/s..... hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd, Electronics Division, Bangalore , in connection with

.....
.....
..... vide Tender Specification No : _____,
dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness

Notary Public

ANALYSIS OF UNIT RATES QUOTED

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Analysis of Unit Rates Quoted

Ref : Tender Specification No:

Analysis of Unit Rates quoted by us in respect of above Tender is as detailed

SN	DESCRIPTION	% OF QUOTED RATE	REMARKS
01	SITE FACILITIES VIZ., ELECTRICITY, WATER OTHER INFRASTRUCTURE.		
02	SALARY AND WAGES + RETRENCHMENT BENEFITS		
03	CONSUMABLES		
04	T&P DEPRECIATION & MAINTENANCE		
05	ESTABLISHMENT & ADMINISTRATIVE EXPENSES		
06	OVERHEADS		
07	PROFIT		
	TOTAL	100%	

Yours faithfully,

(Signature, Date & Seal of Authorized Representative of the Bidder)

BHARAT HEAVY ELECTRICALS LIMITED
DIVISION.....

Running Account Bill

(Para 4.31.1 of Works Accounts Manual)

Name of the Contractor: _____ Date: _____
 Name of the Work: _____ Sub-Division: _____
 Sanctioned Estimate: _____
 Code No: _____
 Contract Agreement No : _____ Dated: _____

1. ACCOUNT OF WORK EXECUTED

On account payment for work not previously/ previously measured**	Item No of	Description of Work	Quantity as per agreement	Rate	Unit	Payment on the basis of actual measurement up to date	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill	Remarks
----- Total since last running account bill up to date									
Rs.	2	3	Rs.	8	9	10	11	12	13
	4	5		7	6				

* *1. Whenever payment is made on 'on account' basis without actual measurements the amount in whole rupees should be entered in columns 1 to 3 only and not in columns 7 to 12.
 2. whenever there is an entry in column 12 on the basis of actual measurement, the whole of the amount previously paid without detailed measurement should be adjusted by a minus entry in column 2 equivalent to the amount shown in column 1, so that the total up to date in column 4 may become nil.

Form WAM 6 (contd...)

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total value of work done up to date	(A) ...
Deduct value of work shown on the last Running Account Bill	(B) ...
Net value of work done since last	(C) ...

Rupees (in words)only.

II. MEMORANDUM OF PAYMENTS

	Rs.	P.	I	Rs.	P.	II	Rs.	P.
1. Total value of work actually measured as per Account No. I, Column 10	(A)	.....					
2. Total up to date 'on account' payment for work covered by approximate Or plan measurements as per Account No. I, Column 3	(B)	.....					
3. Total up to date secured advances on security of materials as per column 8 Of the enclosed Account (Form WAM 10)	(C)	.....					
4. Total up to date payments [(A) + (B) + (C)]	(D)	.....					
5. Total amount of payments already made as per Entry (D) of last Running Account Bill No. Dated.....forwarded to the Accounts Office on	(E)	.....					
6. Balance [(D)-(E)]								
7. Payments now to be made:								
a) by cash/cheque								
b) by deduction for value of materials supplied								
c) by BHEL vide Annexure A attached								
d) by deduction for hire of tools and plant vide Annexure B attached								
e) by deduction for other charges vide Annexure C Attached								
f) by deduction on account of security deposit								
h) by deduction on account of Income Tax								

Note: Amounts relating to items 4 to 6 above should be enter in column II and those relating to item 7 in column I. The amount shown against item 6 and the total of item 7 should agree with each other.

III. CERTIFICATE OF THE ENGINEER IN CHARGE

Form WAM 6 (contd...)

1. The measurements on which the entries in column 7 to 12 of Part I of this Bill (Account of work executed) are based were made byand are recorded at pages.....of
(Name and Designation)

Measurement Book No

- 2. Certified that the methods of measurement are correct and the work has been carried out in accordance with the terms and conditions, schedules, specifications and drawings etc, forming part of the contract agreement, subject to deviations included in the deviation statement (Annexure D).
- 3. Certified that in addition to and quite apart from the quantities of work actually executed as shown in column 10 of Part I, some work has actually been done in connection with several items and the value of the such work is, in no case, less than 'on account' payments as per column 3 of Part I, made or proposed to be made, for the convenience of the contractor in anticipation of, and subject to the results of, detailed measurement which will be made as soon as possible.

Signature of Contractor

Signature of Engineer in charge

Date:

Designation:

Date:

IV. CERTIFICATE OF THE SENIOR ENGINEER

1. Certified that measurements have been check measured to the prescribed extent byat site and also by the undersigned and the relevant entries have been intialled in the Measurement book. (vide pages.....)
(Name and Designation)

2. Certified that all the measurements recorded in the measurement book have been correctly billed for

3. Certified that all recoverable amounts in respect of materials tools and plant etc, and other charges have been correctly made vide Annexures A to C attached.

Certified for payment * of Rs.....(Rupees.....only)

To be paid in cash/by cheque in the presence of

ALLOCATION

The expenditure is chargeable as under and to be included in the accounts for.....20.....

Ledger Head Debit (Gross amount)

Credit (Deductions)

Rs. P.

Rs. P.

Total

* Here specify the net amount payable.

Signature of Senior Engineer

Date:

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Accounts Bill No Dated.....
 Entered in Journal Book vide entry No.....Dated.....
 Passed for.....Rs.....
 Less Deductions.....Rs.....
 Net Amount Payable.....Rs.....
 (Rupees.....only)
 Payable to Shri/M/s.....by cheque/cash
 Entered in Contractor's Ledger No.....Page.....

ALLOCATION		Code no:
Estimate No:		
Name of the Work:		
Ledger Head	Debit (Gross amount)	Credit (Deductions)
-----	Rs. P.	Rs. P.
-----	-----	-----
-----	-----	-----
Total	-----	-----

Assistant Accountant Account Officer
 Date: Date: Date:

VI. Received Rs.....(Rupees.....only) as per
 Memorandum of Payments on account of this work.

Signature of witness
 Address :
 Date:

Revenue
 Stamp
 Signature of Contractor
 Date:

VII. ENTRIES TO BE MADE BY TREASURY SECTION

Cash Book entry No. and date:

Amount paid Rs.....
 Amount unpaid Rs.....
 Total Rs.....

Signature of Cashier
 Date:

ANNEXURE A

Statement showing details of materials issued to the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No.	Stores issue Voucher No. and date	Issue voucher No. and date allotted by stores to the SIV	Description of material issued to the contractor	Quantity issued	Quantity actually incorporated in the work	Whether recoverable from the contractor or supplied free	If recoverable from the contractor			REMARKS	
							Rate at which recoverable	Amount recoverable up to previous bill	Balance now recovered		
1	2	3	4	5	6	7	8	9	10	11	12
Total											

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE B

Statement showing tools and plant issued to the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No	Description of tools and plant issued	Period for which issued	Rate at which recovery Is to be Made	Rs. P.	Amount recover-able	Rs. P.	Amount recovered upto previous bill	Rs. P.	Balance now recovered	Rs. P.	Remarks
1		3	4		5		6		7		8

Total

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE C

Statement showing details of other recoveries to be made from the contractor Shri/M/s.....
 In respect of Contract Agreement NoDated.....

Sl. No	Particulars	Unit	Quantity	Rate	Amount recover-able	Amount recovered upto pre-vious bill	Amount now recovered	Remarks	
				Rs. P.	Rs. P.	Rs. P.	Rs. P.		
1	2	3	4	5	6	7	8	9	
1.	Water Charges								
2.	Electricity charges								
3.	Seignorage charges								
4.	Medical charges								
5.	Cost of empty gunny bags and								
6.	Empty containers not returned								
7.									
8.									
9.									
10.									
Total									

Signature of contractor
Date:

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

ANNEXURE D

Name of the Contractor:
Name of the Work:

Contract Agreement No:
Date:

Sl. No.	Description of item	Unit	Quantity as per Agreement	Quantity as executed	Quantity further anticipated	Total quantity anticipated on completion	Rate as per agreement Rs. P.
1							
2			4	5	6	7	8

Rate as executed	Amount as per agreement Rs. P.	Amount as executed Rs. P.	Amount further anticipated Rs. P.	Total amount anticipated on completion Rs. P.	Difference Excess Rs. P. savings Rs. P.	Reason for the deviation with authority, if any
9	10	11	12	13	14	15
						16

Signature of Engineer in Charge
Date:

Signature of Senior Engineer
Date:

BHARAT HEAVY ELECTRICALS LIMITED DIVISION..... .....And Final bill (Para 4.3.2 Of Works Accounts Manual)	
Name of Contractor	Date
Name of the Work	Division
Sanctioned Estimate	Date of written order to commence the work
Contract Agreement/work Order No	Date of commencement of work
	Due date of completion as per agreement
	Date of actual completion of the work

I. ACCOUNT OF WORK EXECUTED

On Account payment for the work not previously measured **		3	4	5	6	7	8	9	10	11	12	13
Total as per last running account bill Rs.	Since last running account bill Rs	Total up to date Rs	Item No of the agreement/work order	Description of work	Quantity as per agreement	Quantity executed up to date	Rate Rs. P	Unit	Payment on the basis of actual measurement up to date Rs P	Quantity since last running account bill	Payment on the basis of actual measurement since last running account bill Rs P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13

1	2	3	4	5	6	7	8	9	10	11	12	13
---	---	---	---	---	---	---	---	---	----	----	----	----

Total Value of Work Done up to date	(A)
Deduct Value of work shown on the last running account bill	(B)
Net value of work done since last running account bill	(C)

_____ Rupees (In Words).....Only

II MEMORANDUM OF PAYMENT

Rs. P

(A)

1 Total Value of work actually measured as per Account no I column 10

2 Deduct amount of payments already made as per last running account bill No Dated
Forwarded to the Accounts Office on (B)

3 Payments now to be made { (A) - (B) } (C) P

Rs

P

4 Deduct amounts recoverable from the contractor on account of :

a Material supplied by BHEL vide annexure A attached

b Hire of Tools & Plants vide Annexure B attached

c Other charges vide Annexure C attached

d Income Tax

Total deduction

5 Balance

6 Refund of 50% of security deposit on completion of work

Net amount to be paid to the Contractor

7

III. CERTIFICATE OF THE ENGINEER IN CHARGE

The measurement on which the entries in columns 7 to 12 of Part I of this bill (Account of work executed) are based were made by

.....

(Name and designation)

2 A statement showing the quantities of stores issued to the contractor (whether free or on recovery basis) and their disposal is attached.

Date:

Signature of Engineer in charge

Designation

IV CERTIFICATE OF THE SENIOR ENGINEER

- 1 Certified that I have personally inspected the work and that the work has been physically completed on the due date in accordance with the terms and conditions of the contract.
- 2 Certified that the measurements have been check measured to the prescribed extent by
pages.....
- 3 Certified that the methods of measurement are correct
- 4 Certified that the measurements have been technically checked with reference to contract drawings, deviations etc
- 5 Certified that all the measurements recorded in the measurement book have been correctly billed for at the contract rates or approved rates.
- 6 Certified that all the recoverable amounts in respect of stores, tools and pallant, elwater, electricity charges etc, have been correctly made vide Annexures A
- 7 Certified that the issues of all stores as per statement attached (whether charged to the contractor or direct to the work) have been technically checked and approved.

Certified for payment of * Rs (Rupees)..... (Only). To be paid in cash/by cheque in the presence of

The expenditure as under and to be included in the accounts for20

	Debit (Gross Amount) Rs. P	Credit (Deduction) Rs. P
Ledger Head
Total

* Here specify the net amount payable Signature of Senior Engineer
Date

V. ENTRIES TO BE MADE IN THE ACCOUNTS OFFICE

Account Bill no.....	Dated	ALLOCATION	
Entered in Journal book vide entry No.....	Dated.....	Estimate No:	Code No
Passed for.....	Rs.....	Name of the Work	
Less Deductions.....	Rs.....	Ledger Head	Debit
(Rupees.....)	Rs.....		(Gross Amount)
Payable to Shri/M/s.....	by cheque/cash		Rs
Entered in contractors' Ledger no.....	Page		(Deduction)
Assistant	Accountant		Rs
Date:	Date: .....		.....
			Total

VI. Received Rs.....(Rupees.....) Only in full and final settlement of all moneys due under this contract and I / we have no further claims of this contract.

Signature of Witness
Address

Revenue Stamp
Signature of Contractor
Date:

VII . ENTRIES TO BE MADE BY TREASURY SECTION

Cash book entry no and date :

Amount Paid Rs.....
Amount unpaid Rs.....
Total Rs.....

Signature of Cashier
Date:

ANNEXURE A
Part I

Statement showing details of material issued to the contractor Shri/M/s..... In respect of Contract Agreement/Work Order No..... Dated

SI No	Stores Issue voucher No and date	Issue voucher No and date allotted by stores to the SIV contractor	description of material issued to the contractor	Quantity actually incorporated in the work	Whether recoverable from the contractor	Rate at which recoverable or supplied free	Rs	P	8	Amount Recoverable upto previous bill	Rs	P	10	Balance Now recovered	Rs	P	11	Remarks
1		3		5					7				9				11	12

Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE A
Part II

Statement showing details of material issued to the contractor Shri/M/s..... in respect of Contract Agreement/Work Order No..... Datedand not covered by the agreement

SI No	Stores Issue voucher No and date	Issue No stores to the SIV	Issue voucher description No and date of material issued to the contractor	Quantity issued	Quantity incorporated in the work	Issue Rate	Amount Recoverable	Amount recoverable upto previous bill	Balance Now recovered	Remarks
1	2	3	4	5	6	7	8	9	10	11
						Rs P	Rs P	Rs P	Rs P	

Total
 Add Departmental Charges
 Add Sales Tax (wherever applicable)
 Total

Signature of Contractor
Date

Signature of Engineer in charge
Date

Signature of Senior Engineer
Date

ANNEXURE C

showing detail of other recoveries to be made from the contractor Shri/M/s.....
 nent/Work Order No..... Dated.....

Sr.No	Particulars	Unit	Quantity	Rate Rs. P.	Amount recoverable Rs. P	Amount recovered upto previous bill Rs. P.	Amount now recovered Rs. P.	Remarks
1	2	3	4	5	6	7	8	9
	1 Water Charges							
	2 Electricity Charges							
	3 Seignorage Charges							
	4 Medical Charges							
	Cost of empty gunny bags and empty containers not returned							
	5							
	6							
	7							
	8							
	9							
	10							
	Total							

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

ANNEXURE F

Statement showing detail of materials issued to the contractor Shri/M/s.....Dated.....
 of Contract Agreement/Work Order No.....

FREE OF COST

Name of work;											
Sr.No	Stores issue voucher No.	Description of material	Unit	Quantity issued	Quantity required as per data	Quantity consumed in the work	Balance(if any)	Nature of disposal for the balance	Rate chargeable for material not returned Rs.P.	Amount recoverable for material not returned Rs. P	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Total

Signature of Contractor
Date

Signature of Engineer Incharge
Date

Signature of Sr. Engineer
Date

Note:Data statement of theoretical consumption should be attached in support of the quantity specified in coloumn 6

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Name of the work :	
Name of the Contractor :	
Date of commencement of the work:	
Contract agreement/work ordered no. and date:	
Reference to supplementary agreement no,if any :	
Whether administrative approval and technical sanction has been accorded by the competent authority ? If so ,cite reference	
Whether sanction of the competent authority and financial concurrence of the Accounts Department for award of the work has been accorded ? If so,cite reference.	
Whether the work has been completed in time ? If not ,whether penalty has been levied or sanction of the competent authority for extension of time granted and communicated to the Accounts Department with reasons for grant of extension? (Due and actual date of completion of the work and reference to letter no. and date granting the extension of time should be given)	
(a) Whether the rates allowed in the bill have been checked with the contract agreement ? (b) Whether the rates for extra/supplemental items have been approved by the competent authority and the sanction communicated to the accounts Department together with rate analysis? If so,cite reference.	
Whether deviations have been approved by the competent authority? If yes, give reference to the approval; if not, give reasons.	
Whether the rates of recovery of stores issued to the contractor which are not provided for in the Contract Agreement have been settled in consultation with Finance?	
Whether discrepancies pointed out by the Accounts Department in the store statement have been reconciled and accepted by the Accounts Department?	
Whether materials issued to the contractor in excess of the theoretical requirements have been returned to the Stores Department and the no. and date of such returned stores vouchers have been shown in stores statement? If not ,whether the cost of such excess material has been recovered at the prescribed rate? Whether consumption statements in respect of materials chargeable to the work have been attached to the bill?	

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
Whether consumption of materials shown has been technically checked by Senior Engineer?	
Whether materials issued and used in the work is not less than that required for consumption in work according to our specification? If consumption is less, whether necessary recovery has been made in the bill?	
Whether measurements have been checked by the Engineer and Sr. Engineer to the extent required and certificates of check recorded in the measurement books?	
Whether contractor has signed the bill and the measurement books without reservations? If not; whether reasons have been intimated to the Accounts Department?	
Whether arithmetical calculations have been checked and certificate recorded in the measurement books by a person other than the one who calculated initially	
Whether any work was done at the risk and cost of the contractor and whether such cost has been recovered from him? Give particulars.	
Whether all advance payments on running Accounts have been recovered?	
Whether all the recoveries due to services given to the contractor like rent of accommodation, water charges, electricity charges etc. have been recovered and whether payments made by the company on behalf of the contractor have been adjusted?	
Whether the files containing abstracts from measurement books/ standard measurement books have been completed/ updated?	
Whether hire charges of tools and plant have been recovered and the statement of hire charges with full details attached?	
Whether the certificate of workmanship and completion of work according to specifications, drawings etc. is recorded by Engineer/ Sr. Engineer and whether recoveries have been made for defective works, if any?	
Whether all corrections in the bill/measurement books etc. have been neatly made and attested and there are no overwriting?	
Whether final measurements have been taken as soon as possible after completion of work and the certificate of completion issued? If not, whether reasons for delay have been recorded and communicated to Accounts?	

QUESTIONNAIRE TO BE ANSWERED BY ENGINEER IN CHARGE AND SENIOR ENGINEER	
(Correct particulars and answers to be recorded)	
In respect of Quantities reduced in the final bill as compare to the running payment, whether adequate reasons have been recorded and communicated to Accounts	
Whether the Expenditure has been classified correctly according to heads of Account recorded in the sanctioned estimate?	
Whether the work has been completed within the estimated cost? If not, what is the percentage of excess over the sanctioned estimate/ administrative approval? In case the excess is beyond the competency of Sr. Engineer, what action has been taken for the obtaining the approval of the authority competent to sanction the excess?	
(a) If the contractor has furnished bank guarantee in lieu of cash security deposit towards proper execution of works and guarantee against defects during the maintenance period, whether the period of currency of the bank guarantee cover the entire maintenance period? (b) If not, whether security deposit has been proposed to be recovered from the final bill?	
Whether all the previous audit objections raised on running Account bills have been settled? If so, cite reference.	
Signature of Engineer in Charge	Signature of Engineer in Charge
Date:	Date:

Date : _____

SOLVANCY CERTIFICATE

[to be issued by Banks as mentioned in the attached list]

Ref: _____

This is to certify that M/s. _____ having their Registered Office at _____ is solvent to the extent of Rs. _____ [Amount in Words _____] as disclosed by the information and record which are available with the bank.

This certificate is issued at the request of M/s. _____ for a Tender Purpose.

This certificate is issued without any risk/liability or responsibility whatsoever on the part of the Bank or any of its officers.

For Bank _____

Name of Signatory

List of Consortium Bank			
	Nationalised Bank		Nationalised Bank
1	Allahabad bank	19	Vijaya Bank
2	Andhra bank		Public Sector Banks
3	Bank of Baroda	20	IDBI
4	Canara Bank		Foreign bank
5	Corporation bank	21	CITI Bank N.A
6	Central bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24	Standard Chartered Bank
9	Oriental bank of Commerce	25	The Royal Bank of Scotland N.V.
10	Punjab National Bank	26	J P Morgan
11	Punjab & Sindh Bank		Private bank
12	State Bank of India	27	Axis Bank
13	State Bank of Hyderabad	28	The Federal Bank Limited
14	Syndicate Bank	29	HDFC
15	State Bank of Travancore	30	Kotak Mahindra Bank
16	UCO Bank	31	ICICI
17	Union Bank of India	32	Indusind Bank
18	United Bank of India	33	Yes Bank

REV 00
27th Aug
2013

VOLUME -II PRICE BID SPECIFICATION

(DOC. NO. BHEL/EDN/CCIP/KAPP/C&I/PBS REV.00
DT. 27/08/2013)

**BHARAT HEAVY ELECTRICALS LIMITED
ELECTRONICS DIVISION, BANGALORE**



**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
ELECTRONICS DIVISION
PO BOX. 2606, MYSORE ROAD - BANGALORE 560026

FOR

RECEIPT AT SITE, UNLOADING, INSPECTION, RE-PACKING AND SHIFTING TO STORES/STORAGE YARD, TRANSPORTATION TO SITE OF WORK, STORES MANAGEMENT, COMPLETE ERECTION, CALIBRATION, TESTING, COMMISSIONING ASSISTANCE, HOUSE KEEPING, WATCH & WARD AND HANDING OVER OF CONTROL & INSTRUMENTATION WORKS FOR CONTROL CENTRE INSTRUMENTATION PACKAGE FOR KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4

AT

**KAKRAPAR ATOMIC POWER PROJECT UNIT 3 AND 4
P.O. ANUMALA via VYARA
GUJRAT-394651**

LAST DATE FOR
TENDER SUBMISSION .

Refer Notice Inviting Tender

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II ARE ISSUED TO:

M/s.

.....

PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

DGM (CCIP)
Place: BANGALORE
Date :

PRICE BID SPECIFICATION SCHEDULE OF RATES AND QUANTITIES

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
1	MAS Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT - 450KG (APPROX)	8	CONTROL EQUIP ROOM	4	4				1
1.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
1.2	Transportation from stores and Installation of Panels								
1.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
2	BTC Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT - 450KG(APPROX.)	8	CONTROL EQUIP ROOM	4	4				1
2.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
2.2	Transportation from stores and Installation of Panels								
2.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
3	CPSD Panels (Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700 KG(APPROX.)	26	CONTROL EQUIP ROOM	13	13				2
3.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
3.2	Transportation from stores and Installation of Panels								
3.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
4	CDF -5 Bay (Frame Size: 1090 X 800 X 2294 mm) WEIGHT- 600KG (APPROX.)	16	VARIOUS PLACES	8	8				

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
4.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage							1.5	
4.2	Transportation from stores and Installation of Panels								
4.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
5	MCRP Panels (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	8	CONTROL EQUIP ROOM	4	4				
5.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage							1	
5.2	Transportation from stores and Installation of Panels								
5.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
6	MCRP PANELS PL-1 TO 3, LVS, SIMULATOR (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	9	CONTROL EQUIP ROOM	6	3				
6.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage							1.5	
6.2	Transportation from stores and Installation of Panels								
6.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
7	Fuel Handling MCRP, Fuelling Machine Simulator Panels and Operator Console (Panel Size: 1200/1700 X 1500 X 2500 mm) WEIGHT- 1000KG (APPROX.)	9	MAIN CONTROL ROOM	6	3				
7.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage							1.5	
7.2	Transportation from stores and Installation of Panels								

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
7.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
8	FHC & SIMULATOR PANELS (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	47	MAIN CONTROL ROOM	30	17			3	
8.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
8.2	Transportation from stores and Installation of Panels								
8.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
9	STMS Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	52	CONTROL EQUIP ROOM	26	26			3	
9.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
9.2	Transportation from stores and Installation of Panels								
9.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
10	RCMS Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	58	CONTROL EQUIP ROOM	29	29			3	
10.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
10.2	Transportation from stores and Installation of Panels								
10.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE IN INR (Unit rate)	QUOTED PRICE IN INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
11	RPCMS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	76	CONTROL EQUIP ROOM	38	38				3.5
11.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
11.2	Transportation from stores and Installation of Panels								
11.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
12	CVCSMS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	52	CONTROL EQUIP ROOM	26	26				3
12.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
12.2	Transportation from stores and Installation of Panels								
12.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
13	PIS Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	68	CONTROL EQUIP ROOM	34	34				3.5
13.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
13.2	Transportation from stores and Installation of Panels								
13.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
14	FHCC Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	14	CONTROL EQUIP ROOM	7	7				1.5
14.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
14.2	Transportation from stores and Installation of Panels								

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4							Dt. 27/8/13
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)
14.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications						
15	EMTR Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	30	CONTROL EQUIP ROOM	15	15		2
15.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage						
15.2	Transportation from stores and Installation of Panels						
15.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications						
16	MAS (Balance) Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	12	CONTROL EQUIP ROOM	6	6		1.5
16.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage						
16.2	Transportation from stores and Installation of Panels						
16.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications						
17	BMS(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	2	CONTROL EQUIP ROOM	1	1		0.5
17.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage						
17.2	Transportation from stores and Installation of Panels (including installation of 200nos Beetles/unit at various locations in the plant)						
17.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications						
17.4	Installation of Beetles (200 nos per Unit) Total 400 nos for both units to be installed at various places in the plant						

PRICE BID SPECIFICATION SCHEDULE OF RATES AND QUANTITIES

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
18	SDS #1 Panels(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	16	CONTROL EQUIP ROOM	8	8				
18.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage								1.5
18.2	Transportation from stores and Installation of Panels								
18.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration,Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications								
19	SDS #2 Panels (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	18	CONTROL EQUIP ROOM	9	9				
19.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage								1.5
19.2	Transportation from stores and Installation of Panels								
19.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration,Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications								
20	MAIN AIRLOCK SYSTEM & AUXILIARY AIR LOCK SYSTEM (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	12	CONTROL EQUIP ROOM	6	6				
20.1	Receipt of Panels,Unloading, Unpacking,Inspection,Re-packing and Storage								1
20.2	Transportation from stores and Installation of Panels								
20.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration,Testing and Commissioning, Implementation of FCNs,ECNs and Design Modifications								
21	ECCS ALARM SYSTEM (EAS) & LOGIC RELAY PANEL (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	30	CONTROL EQUIP ROOM	15	15				

PRICE BID SPECIFICATION SCHEDULE OF RATES AND QUANTITIES

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
21.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								2
21.2	Transportation from stores and Installation of Panels								
21.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
22	PHT INSTRUMENT PANEL (Panel Size : 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	4	CONTROL EQUIP ROOM	2	2				0.5
22.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
22.2	Transportation from stores and Installation of Panels								
22.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
23	LOGIC RELAY PANELS (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	10	CONTROL EQUIP ROOM	5	5				1.5
23.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
23.2	Transportation from stores and Installation of Panels								
23.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
24	CIS & CSS (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	12	CONTROL EQUIP ROOM	6	6				1.5
24.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
24.2	Transportation from stores and Installation of Panels								
24.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
25	AR/CR CONTROL SYSTEM (Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	4	CONTROL EQUIP ROOM	2	2				0.5
25.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
25.2	Transportation from stores and Installation of Panels								
25.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
26	FFM MANUAL DATA COLLECTION PANEL(Panel Size: 800 X 900 X 2200 mm) WEIGHT- 450KG (APPROX.)	2	CONTROL EQUIP ROOM	1	1				0.5
26.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
26.2	Transportation from stores and Installation of Panels								
26.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
27	CPSDP (BALANCE PANELS) (Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700KG (APPROX.)	68	CONTROL EQUIP ROOM	34	34				3
27.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								
27.2	Transportation from stores and Installation of Panels								
27.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications								
28	BACK UP CONTROL ROOM PANELS(Panel Size: 1200 X 1200 X 2200 mm) WEIGHT- 700KG (APPROX.)	12	BACKUP CONTROL EQUIP ROOM	6	6				1.5
28.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage								

PRICE BID SPECIFICATION SCHEDULE OF RATES AND QUANTITIES

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4										Dt. 27/8/13
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Indicative % of Max. price (% of total price)		
28.2	Transportation from stores and Installation of Panels									
28.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications									
29	CDF (BALANCE) (Panel Size: 1100 X 600 X 2300 mm)	20	FIELD/MARSHAL LING	10	10			1.5		
29.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage									
29.2	Transportation from stores and Installation of Panels									
29.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications									
30	BTC (BALANCE) (Panel Size: 800 X 900 X 2200 mm)	38	FIELD/MARSHAL LING	19	19			2		
30.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage									
30.2	Transportation from stores and Installation of Panels									
30.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications									
31	N-16 and O-19 Monitoring Panel (Panel Size: 800 X 900 X 2200 mm)	2	CONTROL EQUIP ROOM	1	1			1		
31.1	Receipt of Panels, Unloading, Unpacking, Inspection, Re-packing and Storage									
31.2	Transportation from stores and Installation of Panels									
31.3	Termination of Field Wiring, Pre-commissioning checks, Assistance during Integration, Testing and Commissioning, Implementation of FCNs, ECNs and Design Modifications									

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE In INR (Unit rate)	QUOTED PRICE In INR (TOTAL) In figures and words	Indicative % of Max. price (% of total price)	Dt. 27/8/13
32	Installation of Consoles (1300 W X 650 D X 800/1200 H mm)	64	MAIN CONTROL ROOM	32	32			2	
33	Installation of Consoles (1300 W X 650 D X 800/1200 H mm) FOR SIMULATOR	29	BACKUP CONTROL ROOM	29	0			1	
34	Installation of filler panels in Main Control Room and Simulator Room by bolting or welding for Main Control Room Panels(MCRPs) and Consoles (In between the MCRPs, Consoles where ever required and between MCRPs and false ceiling) including supply of all accessories, consumables, welding materials, bolts.	300 SQ.MTR	MAIN CONTROL ROOM	150	150			1	
35	Installation of MS trough (C type channel 180 mm W x 112 mm H) by bolting or welding for control equipment room panels (In between the rows of panels where ever required) including supply of all accessories, consumables, welding materials, Bolts.	400 M	CONTROL EQUIP ROOM	200	200			1	
36	Mounting of Operator Work Stations (OWS)/ Engineering Work Stations (EWS) (consisting of PC, monitor, keyboard etc.) in consoles	184	VARIOUS PLACES	92	92			1.5	
37	Installation of network switches on wall / in panels including supply of all accessories, consumables, welding materials, Hilti Bolt/ Fisher anchor.	190	VARIOUS PLACES	95	95			1	
38	Installation of printers on printer table	25	VARIOUS PLACES	13	12			0.5	
39	Laying of cross connection wires for Control Distribution Frame (CDF)	100000		50000	50000			2.5	
40	Laying of cross connection wires for Buffer Terminal Cabinet (BTC) and inter/intra panel wires including tinning of both ends of the wire	100000		50000	50000			2	
41	LAN Cables	64KM		32KM	32KM				

PRICE BID SPECIFICATION SCHEDULE OF RATES AND QUANTITIES

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
41.1	Receipt of Cables, Unloading, Unpacking, Inspection, Re-packing and Storage								2
41.2	Laying of LAN cable								
42	Termination of wires including supply of consumables like various types of lugs, solder wire as per requirement, and wire identification sleeve suitable for thermal printing including printing of terminal nos./wire nos.								
42.1	Screwed terminations/screw less spring clamp connections without lugs	760000		380000	380000				
42.2	Screwed terminations with lugs	55000		27500	27500				
42.3	Soldered terminations	50000		25000	25000				
42.4	Connectorisation (Numbers of soldered termination on various types of connectors)	25000		12500	12500				
42.5	RJ-45 connectorisation	4700		2350	2350				
43	Optical Fiber Cable	80KM		40KM	40KM				2
43.1	Receipt of Cables, Unloading, Unpacking, Inspection, Re-packing and Storage alongwith Accessories(Conduits/GI Pipes)								
43.2	Laying of Optical Fiber Cable in Conduits/GI Pipes								
44	Terminations of Optical Fiber Cable (OFC) (each fibre) including identification sleeves and supply of consumables. Connectors will be supplied by BHEL	3700		1850	1850				2
45	Installation of 19 inch rack mountable bins & connector panel for start up instrumentation system and their wiring upto terminal block/ inter bin wiring in control panels	58		29	29				0.5
46	Preparation & Issue of As-Built drawings (ED, WD, TL etc.) including corrections using AUTOCAD, Printing, Xeroxing etc. of required no. of copies								
46.1	A0 size	50		25	25				1
46.2	A1 size	300		150	150				
46.3	A2 size	50		25	25				
46.4	A3 size	500		250	250				
46.5	A4 size	600		300	300				

**PRICE BID SPECIFICATION
SCHEDULE OF RATES AND QUANTITIES**

BOQ FOR CCIP PACKAGE OF KAPP 3 AND 4									
A	DESCRIPTION	TOTAL QTY FOR PROJECT (KAPP 3 AND 4)	AREA	UNIT-3 QTY	UNIT-4 QTY	QUOTED PRICE in INR (Unit rate)	QUOTED PRICE in INR (TOTAL) in figures and words	Dt. 27/8/13	Indicative % of Max. price (% of total price)
47	Engineer (BE with 2-3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	350 MAN DAYS		175	175				
48	Supervisor (Diploma with 3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	150 MAN DAYS		75	75				5
49	Technician (ITI with 3 years of experience in erection and commissioning of C&I systems) for NPCIL's use	700 MAN DAYS		350	350				
50	Draftsman (with 3 years of experience) for NPCIL's use	150 MANDAYS							
51	Other items to be received, inspected, repacked, stored, transported and mounted/erected WEIGHT - 50 KGS. EACH (APPROX)								
51.1	PHT Pumps condition monitoring system-1	2		1	1				
51.2	Seal Leak Monitoring and Analysing device-1	2		1	1				
51.3	PHT Pumps condition monitoring system-2	2		1	1				
51.4	Seal Leak Monitoring and Analysing device-2	2		1	1				
51.5	Neutronic Alarm Unit for SDS-1 and SDS-2	12		6	6				1
51.6	Power Supply Unit for Neutronic Alarm Unit for SDS-1 and SDS-2	12		6	6				
51.7	Regional Over-power Protection Amplifier Unit for SDS-1 and SDS-2	24		12	12				
51.8	Hand Switches for Reactor Trip	6		3	3				
51.9	OLTC Tap Position Indicator	8		4	4				
51.10	Startup Dolly Connector Panel	2		1	1				
51.11	JCA for Backup Control room	2		1	1				
52	MATERIAL MANAGEMENT SERVICE								
52.1	Store Keeper (Diploma)	30 Manmonths		30 Manmonths					
52.2	Computer Operator (Diploma)	30 Manmonths		30 Manmonths					3
52.3	Assistants	120 Manmonths		120 Manmonths					
53	PLANNING SERVICE								

