

Bharat Heavy Electricals Limited Power Sector - Eastern Region, Kolkata		
TENDER NO - PSER:SCT:KLN-M1866:17		
VOLUME – IB	GENERAL CONDITIONS OF CONTRACT (SERVICE)	1 of 55

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PART – I

INSTRUCTION TO TENDERER

CLAUSE NO	DESCRIPTION
1.0	SUBMISSION OF TENDERS The tenderers must submit their tenders in two parts in separate sealed covers as detailed below and as per instructions of NIT. PART-I (TECHNO-COMMERCIAL PART). PART-II (PRICE PART).
1.1	PART-III (TECHNO-COMMERCIAL PART)
1.1.1	This shall includes the following :
1.1.1.1	Covering letter of Tenderer.
1.1.1.2	Volume-IA/IB/IC/ID – General and Special Conditions of Contract.
1.1.1.3	Volume-II – Technical specification including drawings, if any.
1.1.1.4	Volume-III – ‘Price schedule’, (No rate shall be entered in the rate column. Only write ‘quote’ against each rate of the schedule).
1.1.1.5	Drawings.
1.1.1.6	Schedules, annexures, proformas and other documents as indicated in the tender document and as specified in the tender enquiry letter.
1.1.1.7	The above documents shall form one set of the Part-I tender. Tenderers shall submit requisits sets of Part-I tender, i.e. original and duplicate sets as specified in the tender enquiry letter. All the sets shall be sealed and marked ‘Original Part-I tender’ and ‘Copies of Part-I tender’ on the respective sets and superscribed as : PART – I (TECNHO-COMMERCIAL PART). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.2	PART –II (PRICE PART) This shall include following:
1.2.1	Copy of the covering letter enclosed in Part – I tender.
1.2.2	Volume III – Schedule of item of work (in the rate /price column the rate / price figures should be entered in words as well as in figures).
1.2.3	Tenderer shall submit requisite sets of Part – II tender duly sealed in one cover, superscribed as: PART – I (PRICE PART). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.3	PART – III (EMD) Earnest Money Deposit should be made in the form as indicated in tender document and shall be submitted inside a sealed envelope superscribing the following. PART – III (EMD). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.4	MAIN COVER Duly sealed and superscribed, as detailed above of Part – I, Part- II and Part – III tenders shall be enclosed in one main cover duly sealed and superscribed as: PART-IV (TECNHO-COMMERCIAL PART, PRICE PART AND EMD). TENDER DOCUMENT NO. NAME OF WORK AND PROJECT. SUE DATE OF SUBMISSION.
1.5	Tenders submitted by post shall be sent by ‘REGISTERED POST ACKNOWLEDGEMENT DUE’/ by courier and shall be posted with due allowance for any postal delay. BHEL takes no responsibility for delay, loss or non-receipt of tenders sent by post. The tenders received

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	after the due date and time of submission is liable to be rejected. Telegraphic offers and offers received by telex/ fax may not be considered unless confirmed in writing by a detailed offer.
2.0	OPENING OF TENDERS
2.1	Unless otherwise specified, techno-commercial bids will be opened one day after latest due date of submission of offer at 15-00 hrs for which bidder may depute representative.
2.2	While BHEL reserve the right to open the price bid (Cover –II) of the offers in camera, the date & time to open to Cover–II tender opening shall be intimated to the bidders in case BHEL decides it to be 'Public opening' and in such a case, one representative of the bidder shall be allowed to attend.
2.3	Price bids of those bidders who will be qualified for the subject job on the basis of pre-bid discussions, evaluation of techno commercial bids etc will be opened on specified date. Bidders may depute their representatives to participate in opening of price bids. BHEL's decision in this regard is final & binding.
3.0	RATES TO BE IN FIGURES AND WORDS
3.1	The tenderer shall quote in English both in figures as well as in words the rates and amounts tendered by him in the priced schedule of items of work forming part of the tender in such a way that interpolation is not possible. The amount for each item shall be worked out and entered and requisite totals given of all items. The tendered amount for the work shall be entered in the tender and duly signed by the tenderer.
3.2	If some discrepancies are found between the rate given in words and figures or the amount shown in the tender the following procedure shall be followed.
3.2.1	When there is a difference between the rates in figures and words, the rates which correspond to the amount worked out by the tenderer shall be taken as correct.
3.2.2	When the rate quoted by the tenderer in figures and words tallies but the amount is incorrect, the rate quoted by the tenderer shall be taken as correct.
3.2.3	When it is not possible to ascertain the correct rate, in the manner prescribed above, THE LESSER OF THE TWO (ie between figures and words) will be treated as valid rate.
4.0	CORRECTIONS AND ALTERATIONS
	All entries in the tender shall either be typed or be in ink, erasures and over-writing are not permitted and may render such tenders liable to summary rejection. All corrections and alterations shall be duly attested by the tenderer with date.
5.0	ALL PAGES TO BE INITIALLED
	All signatures in tender documents shall be dated as well. All pages of all volumes and sections including drawing of tender documents shall be initialed with seal at the lower right hand corner or signed with seal wherever required in the tender documents by the tenderer or by a person holding power of attorney (copy to be enclosed with Part-I of tender) authorizing him to sign on behalf of the tenderer before submission of tender.
6.0	ADDENDA
	Addenda to the tender documents may be issued prior to the date of opening of the tenders to clarify documents or to reflect modifications in the design or contract terms. All such addenda issued shall form part of tender documents.
7.0	RATES TO BE ALL INCLUSIVE
	The tenderer shall quote for the jobs on the basis of the items entered in the schedule of items of work and shall quote separately for each and every items entered in schedule of items of work. The rates and prices quoted shall be all inclusive as provided for in the schedule of items of work and any claim whatsoever for enhancement of rates or prices quoted on any account shall not be entertained.
8.0	INFORMATION
	The information given in the tender documents and the plans and drawings forming part thereof is merely intended as general information without undertaking on the part of BHEL as to their accuracy and without obligation relative thereto upon BHEL. Before tendering, 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 labour etc. No claim will be entertained later on the ground of lack of knowledge.
9.0	QUANTITIES
	The quantities indicated in the schedule of items of work with respect to the various items are only approximate and are intended merely as general information without undertaking as to the correctness thereof and without any obligation relative thereto upon BHEL.
10.0	ENCLOSURES
	The enclosures to be enclosed alongwith Part-I of the tender shall include the following

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	besides other such enclosures which may have been specified elsewhere in the tender documents.
10.1	Valid Income Tax Clearance Certificate and Sales Tax Clearance Certificate in original or true copies/ photocopies duly attested by a Gazetted Officer.
10.2	Solvency certificate from a nationalized scheduled bank.
10.3	In case of a proprietorship firm, full name of proprietor, address, place and nature of business shall be furnished. In case of partnership firm, names of all the partners and their address, attested copy of partnership deed, instrument of partnership duly certified by the Notary Publics shall be enclosed. In case of company, date and place of registration including date of commencement – certificate, certified copies of Memorandum and Articles of Association, nature of business carried on by the company and provisions of the memorandum relating thereof, names and particulars including addresses of all the directors and their previous experiences etc shall be furnished.
10.4	Power of Attorney or other proof of authority of the person who has signed the tender.
10.5	Provident Fund Account No through which PF of the Employees are deposited including supporting document for the same.
10.6	In case of a consortium arrangement consisting of prime bidder and his associate, the prime bidder to furnish as exclusive undertaking jointly executed by him and his associate for the successful performance of the entire contract. At the time of contract finalisation, a legal document on the formation of such group has to be submitted to BHEL which will be a part of the contract document.
10.7	Any other documents required in terms of this notice.
11.0	GENERAL
11.1	The tender shall be completely filled in all respects and shall be tendered together with requisite information in the manner detailed above. Any tender incomplete in any respect and violating any of the instructions shall be liable to be rejected. If the space in the tender or any schedule or proforma is insufficient pages shall be separately added and numbered.
11.2	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.
11.2.1	To reject any or all the tender.
11.2.2	To split up the work amongst two or more tenderers.
11.2.3	To award the work in part.
11.2.4	Either of the contingencies stated in 11.2.2 and 11.2.3 to modify the time for completion suitably.
11.3	Conditions and unwitnesses tenders, tenders containing absurd or unworkable rates and amounts and tenders which are incomplete and otherwise considered defective and not in accordance with the tender conditions, specification, etc are liable to be rejected.
11.4	If a tenderer expires after his submission of the 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 the tender or after the acceptance of the tender, BHEL may cancel such tender at their discretion unless the firm retains its character.
11.5	BHEL will not be bound by any power of attorney/ granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. They may however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor, concerned.
11.6	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 Earnest Money Deposit/ Security Deposits.
11.7	Canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing are liable to rejection.
11.8	Should a tenderer or contractor or in the case of a firm or Company one or more of its partners / shareholders / directors have a relation or relations employed in the capacity of an officer of BHEL, the authority inviting tender shall be informed of the fact alongwith detail of the officer. Failing this, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money /Security Deposit.
11.9	The tender submitted by a bidder shall become property of BHEL who shall have no obligation to return the same to the bidder.
11.10	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.
11.11	In the event of any contradiction between the terms and conditions stipulated in the different

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	volumes forming the tender documents, the order or precedence shall be Volume-II Technical specifications (for technical aspects); Special conditions of contract followed by General condition of contract (for commercial aspects).
11.12	Any submission of tender by the bidder shall be deemed to have done after careful study and examination of the tender papers with the full understanding of the implications thereof. The specifications and terms & conditions shall be deemed to have been accepted unless otherwise specifically commented upon by the tenderer in his offer. Non compliance of any tender instructions may result in the rejection of the tender offer.
11.13	The bidder shall closely peruse all the clauses, specifications and drawings indicated in the tender documents before quoting. Should the tenderer 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 clarifications on any of the technical aspect, scope of work etc, he shall at once contact the authority inviting the tender for clarification before the submission of the tender.
11.14	The bidder shall make independent enquiry as to the conditions and circumstance affecting his tender estimate and to the possibility of executing the supplies/ works as described. In assessing the tender it will be deemed that the bidder has inspected and examined the site and its surroundings and to have satisfied for the completion of the work and the means of transport and access to the site. The accommodation he may require, the general labour position at the site and to have fixed his prices taking into consideration the risk, contingencies and other circumstances which may influence or affect the execution of the contract.
11.15	Deviations from specifications technical as well as commercial will not normally be allowed. In case the bidder offers an alternative/ nearest equivalent equipment/ specifications, the bidder shall guarantee the performance of the same for the same conditions and ensure as specified in the technical specifications.
11.16	List of the deviations shall be given separately for technical and commercial aspects with specific mention to the clause of tender documents.
11.17	Reasons for such deviations are to be furnished.
11.18	If the proposal submitted has any assumption while making technical specification and scope the same shall be listed separately.
11.19	Deviation from terms and conditions contained in the tender document is not acceptable. However if it is must for the bidder to take deviations, the same shall be loaded while evaluating their offer.
11.20	Penalty for technical deviations/ power consumption etc. shall be twice the rate used for loading. This shall be over and above liquidated damages.
11.21	Tender will be evaluated taking into consideration financial advantages as available including those available from the ultimate owner.
11.22	Conditions and unwitnesses tenderers, tenders containing absurd or unworkable rates and amounts and tenders which are incomplete and otherwise considered defective and not in accordance with the tender conditions, specification, etc. are liable to be rejected.
11.23	BHEL will be not be bound by any power of attorney granted by the bidder or 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.
11.24	No correspondence shall be entertained from the bidder after the opening of Part-II price part of the tender.
11.25	Offer submitted by any bidder other than to whom the tender is issued shall be treated as unsolicited offer.
11.26	Tender when finalised shall be in the name of the bidder only and change of name during tender evaluation and after submission of the tender is liable to make his offer ineligible for participation.

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PART – II

GENERAL CONDITIONS OF CONTRACT

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GENERAL CONDITIONS OF CONTRACT

1.0	APPLICATION
	Unless otherwise provided in the Contract Documents, these General Conditions shall govern the works of the accompanying Technical Specifications. Special conditions of this volume shall be read in conjunction with these General Conditions and these conditions will form a part of the Contract Documents.
2.0	DEFINITION OF TERMS
2.1	In construing these General Conditions, Special conditions and accompanying Specifications the following words shall have the meaning herein assigned to them except where the context otherwise requires.
2.1.1	The "Owner /purchaser" shall mean _____, _____, and shall include its successor in office, legal representative and permitted assigns.
2.1.2	"Vendee / BHEL" shall mean Bharat Heavy Electricals Limited, a Company registered under the Indian Companies Act 1956, with its Registered Office at BHEL House, Siri Fort, New Delhi, Power Sector, Eastern Region, Kolkata – 01, or its Administrative Officers or its engineer or other employees authorised to deal with any matter with which these persons are concerned on its behalf.
2.1.3	EXECUTIVE DIRECTOR / GENERAL MANAGER shall mean the officer in administrative charge of BHEL, Power Sector, Eastern Region or their other regional offices.
2.1.4	The "Bidder / Tenderer" shall mean well – established reputed Organizations, manufacturers, etc. having requisite financial and technical capability and experience participating in the Tender invited by BHEL for supply and delivery, erection, testing and commissioning of plant, equipment and strikes including associated civil, structural and architectural works complete as per applicable technical specifications.
2.1.5	The "Contractor" shall mean the successful Bidder / Tenderer who is awarded the Contract and shall be deemed to include the Contractor's successors, assigns, heirs, executors, administrators of representatives approved by the BHEL.
2.1.6	The "Sub-contractor" shall mean individual or firm to whom any part of the work has been Subletted by the Contractor with the consent in writing of BHEL & shall include his /its heirs, executors, administrators, legal representative and permitted assigns.
2.1.7	The "Engineer" shall mean an Officer of BHEL as may be duly appointed and authorised in writing by BHEL to act as "Engineer" on his behalf for the purpose of the Contract, to perform the duty set forth in this General Condition of Contract and other Contract Documents. Site incharge is empowered for such appointment.
2.1.8	The "Inspector" shall mean any firm or person as may be duly appointed and authorised in writing by BHEL /Purchaser from time to time to inspect plant and equipment, works and services under the Contract.
2.1.9	"Acceptance of Tender" shall mean Telegraph /Telex /Telefax Letter of Intent or Notification communicating to the Contractor the acceptance by BHEL of his tender.
2.1.10	"Contract Price" means the sum named in the tender subject to such additions thereto or deductions therefrom as may be made under the provisions hereinafter contained.
2.1.11	"Contract" shall mean the Agreement between the Contractor and BHEL for execution of the payment for the Work as defined in the Contract Documents.
2.1.12	The "Contract Documents" shall mean and include the General Conditions of Contract, Specifications and Schedules, Drawings. Form of Tender, Covering Letters, Schedule of Prices and Quantities submitted by the successful Bidder, Letter of Intent of BHEL, Drawings, subsequent amendments mutually agreed upon and the Agreement to be entered in to between BHEL and the Contractor duly signed by them under the Clauses "Contract" of these General Conditions and other documents that may form part(s) of the Contract Documents.
2.1.13	"Work or Works" shall mean the plant / equipment to be supplied and /or works to be done by the Contractor under the contract Documents.
2.1.14	"Plant" shall mean the portion of the Coal-fired Thermal Power Plant comprising of Unit no. with an installed capacity of MW each (including some other common facilities) being installed at, West Bengal (under the scope of this contract) which includes permanent equipment, machinery, apparatus, materials, articles and civil, structural and architectural works and things of all kinds to be provided under the contract documents.

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2.1.15	"Test" shall mean such test as is prescribed or considered necessary by BHEL/ purchaser whether performed or made by the Engineer or any Agency acting under the direction of the Engineer.
2.1.16	"Constructional Plant" means all appliances or things of what so ever nature required in or about the execution, completion or maintenance of the works or temporary works by the contractor at his own cost and risk (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.
2.1.17	"Goods" shall mean plants, equipment or materials to be supplied under the Contract Documents.
2.1.18	"Temporary Work" shall mean all temporary works of every kind required in or about the execution, completion or maintenance of the work by the contractor at their cost and risk.
2.1.19	"Completion Time" shall mean the period by date/month specified in the acceptance of tender for handing over of the intended scope of work, erected equipment /plant, which are found acceptable by the engineer being of required standard, and conforming to the specifications of the contract.
2.1.20	"Consignees" shall mean the authorised representative or officer of the Purchaser / BHEL to whom the plant, equipment and materials are required to be delivered in the manner indicated in the Contract Documents.
2.1.21	The "Specification" or Specifications / Technical Specification shall mean all Specifications including technical specifications of, the Works and the Tender Drawings and schedules attached thereto and any modification made thereof.
2.1.2	"Drawings" shall mean drawings referred to in the contract Documents including modifications if any and such other drawings as may be from time to time furnished by the Contractor and approved by BHEL/purchaser.
2.1.23	"Site" shall mean the land and other places including existing roads, paths, etc put at the disposal of the contractor by BHEL/purchaser in connection with the execution of the Contract.
2.1.24	"Tests on Completion" Shall mean tests as are prescribed in the specifications and/or other tests as mutually agreed upon by BHEL/purchaser and the Contract to be carried out by the Contractor on erection of the plant to prove satisfactory performance as per Specification.
2.1.25	"Acceptance Test / Performance Guarantee Test" shall mean such test as are required to determine and demonstrate guaranteed capacity, efficiency and operating characteristics of the Plant as stipulated in the contract Documents.
2.1.26	"Commissioning" shall mean the first successful operation of the plant by the Contractor after all initial adjustments, Trials, Cleaning and reassembly required on completion of installation at the Site, if any, have been completed.
2.1.27	"Initial Operation", "Reliability Run" or "Trial Run" shall mean the first continuous operation of the plant by the Contractor covered under the Contract with sub-systems under varying loads to demonstrate satisfactory operation for a specified period which shall not be less than fifteen (15) days.
2.1.28	"Commercial Operation" shall mean the conditions of operation in which all the equipment covered under the Contract are officially declared by BHEL / Purchaser, to be available for continuous operation at different loads and including rated capacity. Such declaration by BHEL/ Purchaser will be issued within thirty days after successful trial run made by the Contractor.
2.1.29	"Service" shall mean furnishing of labour and services as per specifications & supervision of complete erection, testing and putting equipment and materials to be supplied into satisfactory operation, supervision of inland transportation, loading, unloading & storage at the site as defined in the Contract Documents.
2.1.30	"Warranty Period" shall mean the period during which the Contractor shall remain liable for repair or replacement of any defective part of the plant supplied, Works done and services rendered under the Contract.
2.1.31	"Codes" shall mean the applicable International and Indian standards as on the date of letter of Intent and any subsequent modification thereof.
2.1.32	"Month" shall mean calendar month. '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.
2.1.33	"Letter of Intent" shall mean BHEL's letter or notification conveying his acceptance of the Tender subject to such conditions as may have been stated therein.
2.1.34	"Writing shall include any manuscript type or handwritten or printed statement, including Telex, Cable and facsimile transmission under or over signature or seal as the case may be.

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2.1.35	"Approved" or "Approval" shall include firms, companies, corporations and other bodies whether incorporated or not.
2.1.36	Words incorporating "Persons" shall include firms, companies, corporations and other bodies whether incorporated or not.
2.1.37	"Words" incorporating the singular only shall also include the plural and vice-versa where the context requires.
2.1.38	"F.O.B." shall mean delivery free of expenses to the Purchaser / BHEL on board the vessel at the port of shipment.
2.1.39	"CIF price" shall mean delivery free of expenses to the purchaser /BHEL on board the vessel at the port of entry including the insurance coverage.
2.1.40	"F.O.R. Destination" shall mean delivery free of expenses to the Purchaser / BHEL on rail wagons at destination Railway Station or the purchaser's siding as may be named.
2.1.41	"F.O.R. Works" shall mean loaded and stowed or trimmed free of expenses to the purchaser / BHEL on board rail wagons at the Contractor's Works siding or the nearest Railway station for transportation.
2.1.42	"Tonne" shall mean 1000 Kilogram weight. "Gallon" shall mean Imperial gallon, unless otherwise mentioned specifically.
2.1.43	"Final Acceptance" mean the BHEL's /purchaser's acceptance of the work / plant completed in every respect as per terms of Contract Documents on expiry of the Warranty / guarantee / maintenance period.
2.1.44	Terms and conditions not herein defined shall have the same meanings as are assigned to them in the latest edition of Indian Sales of Goods Act / Indian Contract Act as applicable.
2.2	SINGULAR AND PLURAL Words importing the masculine gender or singular number shall also include the feminine gender and plural and vice versa where the context so requires.
2.3	HEADING OR NOTES The headings or notes in these conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.
2.4	LANGUAGE All documentation and correspondence regarding the Contract shall be in English language.
2.5	DOCUMENTS MUTUALLY EXPLANATORY Except if and to the extent otherwise provided by the Contract the provisions of Special Conditions of Contract shall prevail over General Conditions of Contract and over those of any other document forming part of the Contract. Subject to the foregoing the several documents forming the Contract are to be taken as mutually explanatory of one another but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions directing in what manner the Work is to be carried out.
3.0	SCOPE OF CONTRACT
3.1	The scope of work, if no otherwise mentioned in the Contract Document, shall be on the basis of a single contractor's responsibility, completely covering all the equipment / work specified under the accompanying Technical Specification. Some of the salient features are detailed hereunder :-
3.1.1	Detailed design of all the equipment and sub-systems and work as per specification if specifically mentioned in "Special Conditions of contract Vol. II" / Technical specification.
3.1.2	Complete manufactures of all the equipment /subsystem including shop /field testing and assembly as per specification. Providing of special tools and tackles and services necessary for satisfactory execution of the contract.
3.1.3	Pre- assembly, if any, erection, testing & commissioning, trial run of all the equipment / subsystems at the site, test on completion, putting into commercial operation and maintenance during warranty period as specified etc.
3.1.4	Providing services including manpower assistance for performance guarantee tests on completion of commissioning as specified.
3.1.5	Planning construction, completion and maintenance of the Works and except in so far as the contract otherwise provides the provision of all labour, materials, supervision, storage, Constructional Plant, equipments, supplies, transportation to or from the site, fuel, electricity, Temporary works and everything whether of a temporary or permanent nature including civil, structural and architectural works as required in and for such construction, completion, maintenance and handing over of the Works except items specified to be furnished by BHEL or others, all in accordance with the stipulations laid down in the

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	Contract and additional drawings as may be provided by the engineer during execution of the works.
3.1.6	Even though all the work and materials necessary to the satisfactory completion of the Works may not be detailed in the Specifications and Schedule, their costs will be considered to be within the Contract and no extra charge will be accepted.
3.1.7	Except where otherwise specified the contractor shall at his own expenses supply and provide all the constructional plant, temporary works, materials, both for temporary and for permanent works, labour (including the supervision thereof) transport to or from the site and in an about the works and other things of every kind required for the construction, completion and maintenance of the works.
3.1.8	The contractor shall provide and maintain adequate portable fire fighting equipment on the site during the performance of the contract to the approval of the Engineer and the local fire authority. The work shall be executed in such a manner so as to minimize fire hazards.
3.2	ENABLING WORKS
3.2.1	The contractor shall, during the progress of the work, provide, erect and maintain at his own expenses all necessary temporary workshops, stores, site offices, roads, and access for the movements of his personnel and equipment, partitioning, temporary civil works, testing facilities required at site, temporary segregation within the site during the tenure of the contract, distribution of water and power, drainage etc and other temporary facilities which would be required including those required for fulfilling statutory provisions and any other requirements required for the proper and efficient execution of the work. The planning, sitting and erection of these buildings shall have the approval of the engineer and the contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer.
3.2.2	The contractor shall at his own cost provide office and other temporary accommodation for his staff and workmen including canteen facilities and sanitary accommodation, distribution of electricity and water etc.
3.2.3	If the contractor wishes to provide temporary housing and / or camp accommodation for his labour the contractor shall submit for prior approval by the Engineer plan of all accommodation he proposes to erect before any construction commences, the contractor will be responsible for all the costs associated with any temporary housing and/or camp accommodation provided by him.
3.2.4	On the completion of the works the contractor shall clear away and remove from the site all contractor's equipment, construction plant, surplus materials, rubbish and temporary works etc. of every kind and leave the whole of the site and works clean as a workman like condition to satisfaction of Engineer. All roads constructed and used under the contract including the access road shall be repaired and resurfaced where necessary and brought up to a condition satisfactory to the Engineer. The cost of carrying out such work shall be borne by the contractor and such work shall be completed in all respects within a period of 4 weeks from the date of completion of the works.
3.2.5	The contractor shall allow in his tender and provide at his cost all water and electricity required for the work of his employees of the work, together with all pipes, wiring and fittings or other means that may be necessary or required to ensure a proper and ample supply of water and electricity for all purposes connected with the work.
3.2.6	In the event of a provision existing in the tender documents for supply of water and electricity either free or on payment basis, the water and electricity will be supplied from the purchaser's/BHEL's supply system, or other sources at any point fixed by the Engineer on the site of work. The contractor shall make necessary arrangement for lifting, pumping, carrying or conveying the water and distribution of electricity in safe and sound manner as required at his own cost.
3.2.7	The contractor shall be responsible for the true and proper setting out of the works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness (subject as above mentioned) of the position levels, dimension and alignment of all parts of the works and for the provision of all necessary survey, grid, pillars and bench marks, instruments, appliances and labour in connection therewith. If at any time during the progress of the work any error shall appear or arise in the position level dimensions or alignment of any part of the works, the contractor on being required to do so by the Engineer shall at his own expense rectified such error to satisfaction of Engineer. The checking of any setting out or of any line or level by the Engineer shall not in any way relieve the contractor of his responsibility for correctness thereof and the contractor shall carefully protect and preserve all survey grid pillars, bench marks, sight rails, pegs and other things used in setting out the works.

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4.0	CONTRACT PRICE
4.1	The Contract Price is the agreed sum of money stated in the Contract Documents to be paid to the Contractor for the successful completion of the Works in accordance with the terms of the Contract Documents. The Contract Price shall be for the entire scope of the Work with the break ups as specified. The individual item rates or lump sum price as the case may be in the schedule of this Contract shall be deemed to be firm for the entire period of the Contract or extended period of Contract and no escalation in the rates or price shall be permissible for any reason whatsoever unless otherwise specified. The Contract price shall not be varied in respect of the fluctuations in rate of wages or allowances payable to the labour in the cost of materials, consumables, water, fuel, power or freight rates or for the soil conditions subsequently discovered at site or for anticipated profit or alleged losses or for any reason whatsoever unless otherwise specifically mentioned.
4.2	NOTICES, FEES, STATUTES, REGULATIONS ETC
4.2.1	The contractor shall give notices and pay all taxes, fees, royalties etc required to be given or paid under any National or State Statute, Ordinance, other law or any regulation or bye-law of any local or other duly constituted authority in relation to the execution of the works or of any temporary works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the works or any temporary works. In case BHEL is forced to pay any of such taxes and fees etc, BHEL shall have the right to recover the same from the money due to the contractor or other wise as deemed fit by BHEL.
4.2.2	The contractor shall conform in all respects with the provisions of any such statutes, ordinance or law as aforesaid and the regulations or bye-laws of any local or other duly constituted authority which may be applicable to the works or to any temporary works and with such rules and regulations of public and companies as aforesaid and shall keep BHEL indemnified against all penalties and liability of every kind for breach of any such statute, ordinance or law regulation or bye-law.
4.2.3	If the cost of the contractor of the performance of the contract shall be increased or reduced by reason of the making at any stage after the date of his tender of any statute, ordinance or law, regulation, bye-laws of the Govt. or any local or other duly constituted authority, the amount of such increase /decrease shall be borne by the contractor alone & No compensation on this account be entertained by BHEL except otherwise expressly provided.
4.2.4	While BHEL could pay the inspection fees, of the Boiler Inspectorate (wherever applicable), all other arrangement for the visits periodically by Boiler Inspector to site, inspection certificates etc. will have to be made by the contractor.
4.2.5	For specific consideration regarding Notices, Fees, statutes, Regulations etc, Special Condition of Contract shall be referred.
5.0	VARIATIONS AND VALUATIONS
5.1	QUANTITIES
	The quantities set out in the tender are the estimated quantities of the work but they are not to be taken as the actual and correct quantities of the works to be executed by the contractor in fulfillment of his obligations under the contract.
5.2	VARIATIONS
	The Engineer shall have power to make any variation in the form, quantity of the works or any part thereof that to in his opinion be necessary and for that purpose or if for any other reason it shall in his opinion be desirable shall have power to order the contractor to do and contractor shall do any of the following:
5.2.1	Increase or decrease the quantity of any work included in the contract.
5.2.2	Omit any such work.
5.2.3	Change the character or quality or kind of any each work.
5.2.4	Change the levels, lines, position and dimensions of any part of the works.
5.2.5	Execute additional work of any kind necessary for the completion of works.
5.2.6	No such variations shall in any way vitiate or invalidate the contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of contract price.
5.2.7	No such variations shall be made by the contractor without an order in writing of the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given

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	under this clause but is the result of the quantities exceeding or being less than those stated in the bill of quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally the contractor shall comply with such order and any confirmation in writing of such verbal order given by the Engineer whether before or after the carrying out of the order shall be deemed to be an order in writing within the meaning of this clause. Provided further that if the contractor shall confirm in writing to the engineer any verbal order of the Engineer and such confirmation shall not be contradicted in writing by Engineer it shall be deemed to be an order in writing by the Engineer.
5.3	VALUATION OF VARIATION
5.3.1	If the rates for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional altered or substituted work at the same rates as are specified in the contract for the work.
5.3.2	If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for a similar class of work as specified in the contract for the work.
5.3.3	If the rates for altered, additional or substituted work cannot be determined in the manner specified in sub-clause 5.3.1 & 5.3.2 above, then the contractor shall within 7 days of the date of receipt of order to carry out inform the engineer on the basis of prevailing market rates when the work is done and the decision given in this behalf shall be final and binding on the contractor. Rate analysis will be worked on CPWD manual of rate analysis as guidance.
5.3.4	If the rates for the altered, additional or substituted work cannot be determined in the manner specified in also clauses 5.3.1 to 5.3.3 above, then the contractor shall within 7 days of the date of receipt of order to carry out the work inform the engineer of the rate at which it is his intention to charge for such class of work, supported by analysis of rate or rates claimed, and the engineer shall determine the rate or rates on the basis of prevailing market rates and pay the contractor accordingly.
5.3.5	However, the engineer, by notice in writing, will be at liberty to cancel his order to carry out such class of items of work and arrange to carry it out in such manner as he may consider advisable. But under no circumstances the contractor shall suspend the work on the plea of non-settlement falling under the clause or claim any compensation on this account.
5.3.6	VARIATION EXCEEDING SPECIFIED PERCENT If the net effect of all variations (other than those arising by reason of any clause relating to variations in price of materials and/or labour) shall be found on completion of the whole of the works to result in a reduction or an addition greater than 30 percent of the sum named in the tender the amount of contract price shall be amended by such sum as shall be agreed upon between the Engineer and the contractor. In the event of disagreement, the Engineer shall fix such sum as shall in his opinion be reasonable & proper regard being had to all material and relevant factors including the contractor's cost & overhead. The contractor shall be obliged to accept such sum as fixed by the Engineer.
5.4	DAY WORK
5.4.1	The Engineer may if in his opinion it is necessary or desirable order in writing that any additional or substituted work shall be executed on a day work basis. The Contractor shall then be paid for such work under the conditions set out in the day work schedule including in the bill of quantities and at the rates and prices affixed thereto by him in his tender.
5.4.2	The contractor shall furnish to the Engineer receipts or other vouchers as may be necessary to prove the amount paid and before ordering materials shall submit to the Engineer quotations for the same for his approval.
5.4.3	In respect of all work executed on a day work basis the contractor shall during the continuance of such work deliver each day to the Engineer an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement also in duplicate showing the description and quantity of all materials and plant used thereon or therefore (other than plant which is included in the percentage addition in accordance with the schedule here-in-before referred to). One copy of each list and statement will if correct or when agreed be signed by the Engineer and returned to the contractor.
5.4.4	At the end of each month the contractor shall send to the Engineer a priced statement of labour, material and plant (except as aforesaid) used and the contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer shall consider that for any reason the sending of such list or statement by the contractor in accordance with the foregoing provision was impracticable he shall nevertheless be entitled to authorize payment for such work either as

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	day work (on being satisfied to the time employed and plant and materials used on such work) or at such value therefore as shall in his opinion be fair and reasonable.
5.4.5	The contractor shall send to the Engineer once in every month an account giving full and detailed particulars of all claims for any additional expenses to which the contractor may consider himself entitled and all extra or additional work ordered by the Engineer which he has executed during the preceding month and no claim for any such work will be considered which has not been included in such particulars. Provided always that if the Engineer shall be entitled to authorize payment to be made for any such work notwithstanding the contractor's failure to comply with this condition if the contractor has at the earliest practicable opportunity notified the Engineer in writing that he intends to make claim for such work.
6.0	COMMENCEMENT OF WORK, COMPLETION TIME, PROGRESS AND COMPLETION OF WORK
6.1	The time and date of completion of the work as stipulated in the contract document shall deemed to be the essence of the Contract. The contractor shall commence the works on site within the period named in the letter of intent issued by BHEL and shall proceed with the same with due expedition and without delay except as may be expressly sanctioned or ordered by the Engineer. If the contractor fails to commence the work within the stipulated time, BHEL at his sole discretion will have the right to cancel the contract. In such an event the contractor's earnest money and security deposit with BHEL will stand forfeited without any further reference to the contractor, without prejudice to any and all of the BHEL's other rights and remedies in this regard. The contractor shall so organize his resources and perform so as to complete the work not later than the aforesaid date of completion. The time for completion shall always be reckoned from the effective date of contract.
6.1.1	The Contractor shall submit a PERT Network showing various key phases of the work such as design, procurement, manufacturing, shipment, field erection and construction activities within thirty (30) days after the date of Letter of intent. This network shall also indicate the interface facilities to be provided by the purchaser /BHEL and the dates by which such facilities are needed by the contractor and also the programme for phase wise release of work site for construction work as may be needed by the contractor.
6.1.2	The Contractor shall discuss the network so submitted with BHEL. The agreed network may be in the form as submitted or in revised form in line with the outcome of discussions any shall form a part of the contract documents.
6.1.3	The above PERT network shall be reviewed periodic review reports shall be submitted by the Contractor to BHEL as directed by him.
6.1.4	The Contractor shall make available to BHEL detailed manufacturing, erection, testing and commissioning and construction programmes in line with the agreed PERT Network in the form of PERT or Bar Chart as desired by BHEL within 30 days from the date of receipt of LOI During performance of the contract, such programmes shall be renewed, updated and submitted to BHEL as and when needed by him or periodically as specified by him. If in the opinion of BHEL proper progress is not maintained, suitable changes shall be made in the Contractor's operation to ensure proper progress.
6.2	Should the amount of extra or additional work of any kind or other special circumstances of any kind whatsoever which may occur be such as fairly to entitle the contractor to an extension of time for the completion of the work the Engineer shall determine the period of such extension. The contractor shall have no claim against BHEL in respect of revision in delay and disorganization of work even if the extension of time is granted, except where such claim is expressly allowed in the Contract.
6.3	NIGHT AND HOLIDAY WORK Subject to any provision to the contrary contained in the Contract, none of the permanent work shall, save as hereinafter provided, be carried on during the night or on Sundays or other holidays without the permission in writing of the Engineer save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the works in which case the contractor shall immediately advise the Engineer or Engineer's representative. Provided always that the provisions of this clause shall not be applicable in the case to any work which it is customary to carry out by rotation of double shifts. The whole of the materials, plant and labour to be provided by the contractor in night and holiday work under this clause and the mode, manner and speed of execution and maintenance of the works are to be of a kind and conducted in manner approved by the Engineer. Should the rate of progress of the works or any part thereof be at any time in the opinion of the Engineer is too slow to ensure the completion of the work by the prescribed time for completion. If the work is not being carried on by day described and by night and

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	the contractor shall request permission to work by night and on Sundays and other holidays as well as by day, then, if the Engineer shall grant such permission the contractor shall not be entitled to any additional payment for doing so. All work at night shall be carried out without reasonable noise and disturbance. The contractor shall indemnify BHEL from and against any liability for damages on account of noise or disturbance created while carrying out the work and from against all claims, demands, proceedings, damages, costs, charges and expenses what so ever in regard or in relation to such liability.
6.4	PROGRESS REPORTS AND PHOTOGRAPHS
6.4.1	The Contractor shall furnish eight (8) prints each of monthly progress reports as approved by BHEL and photographs of the work done. Photographs shall be taken when and where indicated by the Engineer or his representative. Photographs shall be approximately 100mm × 125mm in size including margin of for fixing. Adequate number of photographs shall be submitted indicating various stages of manufacture and/or installation as applicable. Each photograph shall contain the date, the name of the Contractor and the title of the view taken.
6.4.2	Monthly progress report shall be submitted. These shall detail the status of design, drawings, procurement of raw materials and manufacture of the equipment and delivery of the equipment and also status of erection, testing and commissioning work as applicable. BHEL shall advise the Contractor about the progress schedule and photographs he has to submit each together with the names and addresses of persons to whom they are to be sent. The Contractor shall also furnish actual progress against schedule and such other information as BHEL may require to satisfy himself about the timely manufacture and delivery of equipment and timely construction and erection work to suit the commissioning date. The report shall also indicate the reasons for the variance between the schedule and actual progress and the action proposed for corrective measure wherever necessary.
6.4.3	The submission and acceptance of the photograph and/or reports shall not prejudice the rights of BHEL in any manner.
6.4.4	In the event of contractor's continued poor work progress, BHEL shall at his option treat it as breach of contract by the contractor. In such case it shall be open to BHEL to have the work completed through any other agency / agencies & claim the difference in cost in addition to damages from the contractor without prejudice to any other right / remedy of BHEL under this contract.
6.5	COMPENSATION FOR DELAY
6.5.1	Time and scope are the essence of the Contract. If the contractor fails to maintain the required progress of work as per contract or to complete the work and clear the site within the time prescribed by the Contract (Contractual Completion period), he shall without prejudice to any other right or remedy of BHEL on account of such breach, the contractor agrees to pay compensation (penalty) to BHEL. The above agreed compensation shall be a penalty equivalent to 1/2 % (half percent) of the total executed contract price for service part (irrespective of lump sum or item-rate contract or others) per week or part thereof of the delay subject to a maximum of 10% (ten percent) of the total executed contract price (for the supply & service parts). Note-1 : The cumulative LD for the supply & service part shall be limited to 10% of the executed contract value (for the supply & service parts).
6.5.2	BHEL shall deduct the amount of such compensation from any money due or which may become due to the contractor and/or recover such compensation from the bank guarantees / security deposit of the contractor. To be entitled to impose such compensation, BHEL will not be required to prove that he has incurred such amount as actual damage.
6.5.3	REDUCTION OF COMPENSATION FOR DELAY If before the completion of the whole of the works any part of the works has been certified by the Engineer as completed pursuant to clause "completion certificate" hereof and occupied or used by BHEL the compensation for delay shall for any period of delay after such certification be reduced at the discretion of BHEL in proportion which the value of the part so certified bears to the value of the whole of the works.
6.6	TEST ON COMPLETION
6.6.1	Tests on completion at site will be undertaken by the contractor in accordance with the detailed requirements of the contract. The contractor shall after consulting the engineer give to the engineer in writing 21 days notice after which he will be ready to make the test on completion. Unless other wise agreed the tests shall take place within 10 days after the said date on such day or days as the engineer shall in writing notify the contractor.
6.6.2	If the engineer fails to appoint a time after having been asked so to do or attend at any time

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	or place duly appointed for making the said tests the contractor shall be entitled to proceed in his absence and the said tests shall be deemed to have been made in the presence of the Engineer.
6.6.3	If in the opinion of the engineer the tests are being unduly delayed he may, by notice in writing call upon the contractor to make such tests within 10 days from the receipt of the said notice, and the contractor shall make the said tests on such days written the said 10 days as the contractor may fix and of which he shall give notice to the Engineer. If the contractor fails to make such tests within the time aforesaid the Engineer may himself proceed to make the tests. All tests so made by the Engineer shall be at the risk and expense of the contractor.
6.6.4	The contractor shall provide such assistance, labour, materials, electricity, fuel, storage, instruments and apparatus as are required to complete the tests. If it is not possible to carry out these tests prior to taking over, then BHEL reserves the right to call for these tests prior to taking over and the procedure to carry out the tests shall be subject to mutual agreement between BHEL and the contractor.
6.6.5	The necessary tests shall be repeated for any repaired or replaced portions of the work. If any portion of the works fails to pass the tests, tests of the said portion, shall if required by the Engineer, or contractor be repeated within a reasonable time upon the same terms and conditions.
6.7	COMPLETION CERTIFICATE As soon as in the opinion of the Engineer the works shall have been substantially completed and shall have satisfactorily passed any final tests that may be prescribed under the contract the Engineer shall on receiving a written undertaking by the contractor to finish any outstanding work within six months issue a certificate of completion in respect of the works. Provided that the Engineer may give such a certificate with respect to any part of the works before the completion of the whole of the works and shall upon the written application of the contractor give such certificate with respect to any substantial part of the works which has been both completed to the satisfaction of the Engineer and occupied or used by BHEL and when any each certificate is given in respect of a part of the works such parts shall be considered as completed. Provided also that a certificate of completion given in accordance with the foregoing provisions of any part of the works occupied and used as aforesaid shall not be deemed to certify completion of any ground or surfaces requiring reinstatement unless such certificate shall expressly so state. Provided however, the issue of a certificate of completion of works shall not absolve the contractor of his responsibility in respect of any defect discovered subsequent to the completion of the work and the commissioning of the project.
6.8	USE BEFORE COMPLETION CERTIFICATE
6.8.1	If, by reason of any default on the part of contractor, a completion certificate has not been issued in respect of every portion of the works as mentioned above within one month after the time for 'completion or extended time as the case may be, BHEL shall be at liberty to use the works or any portion thereof in respect of which a completion certificate has not been issued, provided that the works or the portion so used as aforesaid shall be reasonably capable of being used and that the contractor shall be afforded the earliest opportunity of taking such steps as may be necessary to permit the issue of the certificate of completion.
6.8.2	BHEL shall be at liberty from time to time or at any time before the completion of the work to take possession of and use any part of the sites or of incomplete works and in such case the contractor shall completely finish the said incomplete parts or part of the works as and when the Engineer shall direct whether before of after the respective prescribed time or extended time or times (if any) for the completion of the works and if required by the Engineer while BHEL is in possession of the said part or parts of the site or works.
6.9	REJECTION OF DEFECTIVE PLANT
6.9.1	If the completed plant or any portion thereof, before it is taken over under clause "taking over" or during the guarantee / warranty period, be found defective or fails to fulfil the requirement of the contract, the Engineer shall give the contractor notice setting forth particulars of such defects or failure, and the contractor shall forthwith make the defective plant good or after the same to make. It comply with the requirements of the contract. Should he fail to do so within a reasonable time, BHEL after giving seven (7) days written notice may reject and replace at lost of the contractor the whole or any portion of the plant, as the case may be, which is defective or fails to fulfil the requirements of the contract. The contractor's full and extreme liability under this clause shall be satisfied by the payment to BHEL of erection plus difference, if any between the replacement price of the equipment

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	including charges for erection and supervision of erection and the original contract price including charges for erection and supervision of erection in respect of such defective plant.
6.9.2	In the event of such rejection, BHEL shall have the right to operate any and all equipment as long as it is in operating condition, whether or not, such equipment has been accepted as complete and satisfactory, to enable him to obtain necessary replacement except that this shall not be construed to permit operation of any equipment which may become damaged by such operation before any required alterations or repairs and/or replacements have been made. All repairs or alternations or replacement required of the contractor shall be made by the contractor at such times as directed and in such a manner as will cause the minimum interruption in the time of the equipment. Should the contractor not so replace the rejected plant within the time frame as directed by the Engineer, upto the requirements of the specification, the contractor's full and extreme liability under this clause will be satisfied by the payment of all money paid by BHEL to him in respect of such plant.
6.9.3	Nothing in this clause shall be deemed to deprive BHEL or, effect any right under the contract which he may otherwise have in respect of such defects or deficiencies or in any way relieve the contractor of his obligation under the contract.
6.10	TAKING OVER
6.10.1	Upon successful completion of all the tests to be performed at the site on equipment, system and material furnished and erected by the contractor and on completion of successful trail run, BHEL shall issue to the contractor a taking over certificate. Issuance of such much certificate shall not be reasonably with held on account of minor omission or defects which do not affect the commercial operation and/or causes any serious risk to the equipment and system provided the contractor gives an undertaking to rectify such defects /omission within a reasonable period of time. Unless until a final acceptance certificate is issued on completion of warranty / guarantee period by BHEL /purchaser, the contractor shall not be relieved of any of his obligations, duties, responsibilities under the terms and conditions of the contract including insurance as specified elsewhere in the contract documents. The taking over by BHEL / the purchaser may be for each unit completed in all respects for commercial operation at the discretion of BHEL/ the purchaser.
6.10.2	BHEL reserves the right of taking over such buildings as the administrative building, ware house, garages, machine shop etc constructed by the contractor and ready for the use by BHEL / the purchaser prior to taking over certificate of any, plant.
7.0	COMPETENCE AND GUARANTEES
7.1	Contractor shall have sound technical and financial capabilities and possess recognized experience in executing the works of similar kind and magnitude. The contractor shall properly fill in the various schedules and proformas prescribed in the tender document. Non submission of the information in the prescribed schedules and proformas may lead to rejection of the bid.
7.2	EARNEST MONEY DEPOSIT (EMD)
7.2.1	Every tender must be accompanied by the prescribed amount of Earnest Money Deposit as indicated in the tender enquiry letter, in any of the following forms. (All securities are to be discharged and pledged in favour of BHEL). Note: Cheque, Money order, postal order or bank guarantee will not be accepted.
7.2.2	The amount shall be remitted by the bidder in cash (as permissible under Income Tax Act) to the cashier of Bharat Heavy Electricals Limited, Power Section, Eastern Region. Kolkata and cash receipt issued by BHEL shall be enclosed alongwith the tender.
7.2.3	Pay orders, demand draft payable at Kolkata duly pledged in favour of Bharat Heavy Electricals Limited .
7.2.4	Tenders received without earnest money in full in the manner prescribed above are liable to be rejected.
7.2.5	The Earnest money deposit of the successful tenderer paid in cash /DD/pay order shall be retained towards part of Security Deposit.
7.2.6	In the case of unsuccessful tenderers, the Earnest Money shall be refunded within a reasonable time after acceptance of award of work by the successful tenderer.
7.2.7	BHEL reserves the right of forfeiture of earnest money deposit in case the tenderer:
7.2.7.1	After opening of the tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates .
7.2.7.2	Fails to commence work within the period as specified in Letter of Intent or communicate the unqualified acceptance of Letter of Intent within 15 days of date of the Letter of Intent.
7.3	SECURITY DEPOSIT (SD)
7.3.1	Upon acceptance of tender, the successful tenderer within the time specified in the letter of intent must deposit required amount as security deposit for satisfactory completion of work

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	and shall not commence work under the contract before remitting security deposit except as directed by BHEL.	
7.3.2	The amount of Security Deposit shall be as follows:	
	a) In the case of work upto ten lakhs	10%
	b) In the case of work costing above Rs. 10 lakhs upto Rs. 50 lakhs	Rs. 1 [One] lakh plus 7.5% of the the amount exceeding Rs 10 lakhs.
	c) Above Rs 50 lakhs	Rs. 4 [Four] lakhs plus 5% of the the amount exceeding Rs 50 lakhs.
7.3.3	The Security deposit may be deposited in any of the following form:	
7.3.3.1	The total Security Deposit as indicated in the letter of intent can be paid in cash(as permissible under the Income Tax Act)/Pay Order or Demand Draft (in favour of Bharat Heavy Electricals Limited payable at Kolkata)/local cheques of Scheduled Banks (subject to realization) to BHEL, Power Sector, Eastern Region, Kolkata within the time limit stipulated in the letter of intent.	
7.3.3.2	The security deposit as indicated in letter of intent can be paid in the form of bank guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act in the prescribed proforma, validity being upto completion of work as stipulated in letter of intent or stipulated otherwise in the proforma, whichever is later. The bank guarantee furnished towards security deposit should be kept valid by proper renewal till said work is actually completed.	
7.3.3.3	The security deposit may be submitted through securities from Post Offices such as National Savings Certificates/Kisan Vikas Patras etc. (certificates should be held in the name of the contractor furnishing the security and duly pledged in favour of Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata and discharged on the back).	
7.3.3.4	The security deposit may be submitted by 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 Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata, duly discharged on the back.	
7.3.3.5	The security deposit can be recovered by deduction from running bills @ 10% of the value of each running bills till the full Security Deposit is made up. However, in such cases at least 50% of the Security Deposit should be deposited before start of work and the balance may be recovered from RA bills.	
7.3.3.6	Acceptance of security deposit against sl. No. 7.3.3.3 & 7.3.3.4 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 collection of interest or renewal of the documents or in any other matter connected therewith.	
7.3.3.7	If the value of the work done at any time exceeds accepted agreement value, the security deposit shall be correspondingly enhanced and the extra security deposit shall be immediately deposited by the contractor or recovered from payments due to him.	
7.3.3.8	Earnest Money deposit of the successful tenderer can be converted and adjusted against the Security Deposit.	
7.3.3.9	Failure to deposit security money within stipulated time may lead to forfeiture of Earnest Money and cancellation of award of work.	
7.3.3.10	If any parts of security deposit of the contractor is held in the form of approved securities, it shall be kept transferred in the name of Bharat Heavy Electricals Limited, Power Sector, Eastern Region, Kolkata in such a manner the BHEL can realize it fully without reference to the contractor. BHEL shall not be responsible for any depreciation in the value of the security while in BHEL's custody or for any loss of interest thereon.	
7.3.3.11	BHEL reserve the right of forfeiture of security deposit in addition to other claims and penalties in the event of the contractor's failure to fulfil any of the contractual obligations (including liquidation or bankruptcy of the contractor, non-payment of money payable by means of arbitration award in favour of BHEL) or in the event of termination of contract as per terms and conditions of contract. BHEL reserve the right to set off these security deposit, against any claims of any other contract with BHEL.	
7.3.3.12	In case of small value contracts not exceeding Rs.10 lakhs and all SAS jobs, work can be started before Security Deposit is collected. However, payment can be released only after collection / recovery of initial 50% Security Deposit.	
7.3.3.13	If the final price of successful bidder is lesser by 'more than 30%' of BHEL's estimate and the difference between the price of L-1 & L-2 is more than 10% of BHEL's estimate then only, 'Additional Security Deposit' will be required to be submitted by the successful bidder with value as follows:	

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	Additional Security Deposit = "30 % of (A-B)" limited to minimum 5% & maximum 10% of the 'Total Price/Contract Value', where, A = 80% of BHEL estimate B = The final offered price of successful bidder through RA (In case of RA) OR Sealed paper price bid of successful bidder (in case of paper bid) This 'Additional Security Deposit' shall have the same validity as that of the 'Security Deposit' and shall be revalidated/released in the manner as spelt out for the 'Security Deposit' as per relevant clause of GCC. The BHEL's estimated value shall be disclosed to the successful bidder (on their request) at appropriate juncture in case 'Additional Security Deposit' is applicable.
7.3.4	Return of Security Deposit If the contractor duly performs and completes the contract in all respects to the entire satisfaction of BHEL and presents an absolute no Demand Certificate in the prescribed form and returns properties belonging to BHEL taken / borrowed or hired by him for carrying out the said works, half of the amount of Security Deposit will be released to the contractor after deducting all costs of expenses or other amounts that are to be paid to BHEL under this or other contracts entered into with the contractor. It may be noted that in no case the Security Deposit shall be refunded/released prior to passing of final bill. Balance half of the amount of Security Deposit will be released only after the satisfactory completion of Warranty / Guarantee Period as per terms of specification.
7.3.5	No interest shall be payable by BHEL on earnest money / security deposit or any money due to the contractor by BHEL.
7.4	PERFORMANCE BOND
7.4.1	In addition to the security deposit the contractor shall provide to BHEL bank guarantee of an approved nationalized bank for an amount equal to 5% of the contract price as performance bond (under the terms of a bond) within 30 days from the date of LOI and the terms of the said bond shall be such as shall be approved by BHEL. The bond shall remain valid until 6 month after the expiry of warranty / guarantee period. The obtaining of such guarantee and the cost of bond to be so entered into shall be at the expense in all respects to the contractor.
7.4.2	BHEL reserve the right of forfeiture of the above bond in addition to other claims and penalties in the event of the contractor's failure to fulfil any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserve the right to set off this bond against any claim of any other contract with BHEL.
7.4.3	However, this Performance Bond clause will not be applicable for works involving erection, testing & commissioning of BHEL supplied equipment. This shall be applicable to the portion of the contract price for the contractor supplied equipment (including installation of the same, if applicable) which is installed in the main plant unless otherwise specified elsewhere.
8.0	DRAWING, DOCUMENTS AND INSTRUCTIONS
8.1	The contractor shall be responsible wherever applicable, for developing detail drawing to adopt equipment and materials to be supplied to the requirement, indicated in the specification and shall submit a list of such drawings and programme for submission of these drawings within 30 days from the date of LOI.
8.1	Within a reasonable time not exceeding 30 days from the date of LOI the contractor shall also provide BHEL with the following drawings and data as applicable.
8.2.1	Eight (8) marked up copies of technical particulars conforming to the specification.
8.2.2	Outline drawings of all equipment together with weights and sufficient overall dimensions.
8.2.3	Other drawings & data as indicated in different sections of the tender document.
8.2.4	The contractor shall within 3 weeks from the date of LOI submit for approval of BHEL the original copies of Codes and Standards which shall govern the design, manufacture, construction, erection, testing, commissioning and trial operation of the plant as applicable under scope of contract.
8.2.5	The contractor shall within 30 days from the data of LOI furnish inputs for civil packages, basic design data etc as applicable.
8.3	DRAWING SUPPLIED BY BHEL
8.3.1	The drawings supplied by BHEL shall remain in the sole custody of the Engineer but 2 copies thereof shall be furnished to the Contractor free of cost. The contractor shall provide

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	and make at his own expense any further copies required by him. At the completion of the Contract the Contractor shall return to the Engineer all drawings and specifications provided under the Contract.
8.3.2	One copy of the Drawings furnish to the Contractor and aforesaid shall be kept by the Contractor at the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and the Engineer's Representative and by any other person authorised by the Engineer in writing.
8.3.3	The Engineer shall have full power and authority to supply to the Contractor from time to time during the progress of the works such further drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the works and the Contractor shall carry out and be bound by the same.
8.3.4	The detailed drawings, specifications, instruction manual, if any, available with the Engineer will form part of tender specification. These documents will be made available for reference only to the contractor during execution of work.
8.3.5	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 contractor.
8.4	MISTAKE IN DRAWINGS The Engineer shall have the right at all reasonable times to inspect at the office/premises of contractor all shop and/or details drawings of the works or any portion of the works. The contractor shall be responsible for and shall pay alterations of the work due to any discrepancies, errors or omission in the drawings or other particulars supplied by him whether such drawings or particulars has approved by the Engineer or not, provided that such discrepancies, errors or omissions be not due to inaccurate information or particulars furnished to the Contractor by the Engineer, in which event BHEL shall pay for any alternations of work necessitated by reason of inaccurate information supplied by the Engineer to the Contractor.
9.0	MATERIALS AND WORKMANSHIP
9.1	MATERIALS AND WORKMANSHIP FOR MANUFACTURER
9.1.1	All Good to be supplied and all works to be done by the contractor under the contract shall be manufactured and executed in the manner stipulated in the specification or where not specified, to the satisfaction of the Engineer. All materials used in the manufacture of the plant shall be selected from the best available for the purpose, considering strength, durability and best engineering practice, free from defects and imperfection and of recent manufacturer and unused. Liberal factors of safety shall be used throughout the design and specially in the design of all parts subject to alternating stresses or shorts.
9.1.2	All the works shall be performed and completed in a thorough workman like manner and shall follow the best modern practice in the manufacturer of high grade equipment notwithstanding any omission in the specification.
9.1.3	Casting shall be free from blow holes, claws, cracks or other defects and shall be smooth, close-grained and of true forms and dimensions. No plugged or filled-up holes or other defects will be allowed. Such casting are liable to be rejected. However, the contractor may rectify minor casting defects by welding or other method in accordance with the standing manufacturing practice provided such rectification does not affect the strength of the casting or impair with the efficient working of the plant and prior approval or BHEL is obtained for the same.
9.2	WORK MATERIALS, WORKMANSHIP AND TESTS
9.2.1	All materials including construction materials, structural steel and workmanship shall be of the respective kinds described in the contract documents and in accordance with the Engineer's instruction and shall be subjected to from time to time to such tests as stipulated in the approved quality assurance plan and as the Engineer may direct at the place of fabrication or on the site or at all or any of such places. The contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any materials used and shall supply samples of materials before incorporation in the work for testing as may be selected and required by the Engineer. The contractor shall establish at site testing facilities adequate for the above purpose. Collection of samples and testing as specified in the contract documents including special test, if any shall be carried out by the contractor at his cost.
9.2.2	The Contractor shall carry out tests of materials of finished work as stipulated in the Technical Specification as applicable and as the Engineer in writing may require and shall also supply samples necessary for this purpose.

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9.2.3	Cost of Tests The cost of making test including may supply if required shall be borne by the Contractor if such test is clearly intended by or provided for in the specification or bill of quantities and (in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfill) is particularised in the specification or bill of quantities in sufficient detail to enable Contractor to price or allow for the same in his Tender.
9.2.4	Cost of tests not provided for etc If any test is ordered by the engineer which is either:
9.2.4.1	Not so intended by or provided for or
9.2.4.2	(in the cases above mentioned) is not so particularized or
9.2.4.3	Though so intended or provided for is ordered by the Engineer to be carried out by an independent person at any place other than the site or the place of manufacture or fabrication of the materials tested. Then the cost of such test shall be borne by the Contractor if the test shows the workmanship or materials not to be in accordance with the provisions of the contract or the Engineer's instructions but otherwise by BHEL.
9.2.5	EXAMINATION OF WORK BEFORE COVERING UP
9.2.5.1	No work shall be covered up or put out of view without the examination and approval of the Engineer or the Engineer's representative and the contractor shall afford full opportunity for the Engineer or the Engineer's representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The contractor shall give 15 days notice to the engineer's representative whenever any such work or foundation is or are ready or about to be ready for examination and the Engineer's representative shall without unreasonable delay, unless he considers it unnecessary and advises the contractor accordingly, attend for the purpose of examine and measuring such work or of examining such foundations. Provided, however, that such examination by the Engineer or his representative shall not absolve the contractor of his obligation in respect of the work so examined and notwithstanding such examination, the contractor shall remain wholly liable in the event of such foundation or work not being in accordance with specification.
9.2.5.2	The contractor shall uncover any part or parts of the works, make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirements of this sub-clause and are found to be executed in accordance with the contract, the expenses of uncovering, making opening in or through, reinstating and making good the same, shall be borne by BHEL as mutually agreed upon but in any other cases all such expenses shall be borne by the Contractor and shall be recoverable from him by BHEL or may be deducted by BHEL from any money due or which may become due to the contractor.
9.2.6	Improper Work and Material
	The Engineer shall during the progress of the works have power to order in writing from time to time.
9.2.6.1	The removal from the Site within such time or times as may be specified in the Contract Documents of any material which in the opinion of the Engineer are not in accordance with the Contract Documents.
9.2.6.2	The substitution of proper and suitable materials, and
9.2.6.3	The removal and proper re-execution (notwithstanding any previous test thereof or interim payment therefore) of any work which in respect of materials or workmanship is not the opinion of the Engineer in accordance with the Contract Documents. In case of default on the part of the Contractor in carrying out such order BHEL shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by BHEL or may be deducted by BHEL from any money due or which may become due to the contractor.
10.0	POSSESSION OF SITE Save in so far as the contract may prescribe the extent of portion of the site of which the contractor is to be given possession from time to time & the order in which such portions shall be made available him and subject to any requirement in the contract as to order in which the works shall be executed, BHEL or the purchaser will with the Engineer written order to commence the works give to the contractor possession of so much of the site as may be required to enable the contractor to commence & proceed with the construction of the works in accordance with the programme & otherwise in accordance with such

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	reasonable proposals of the contractor as he shall by notice in writing to the Engineer make and will from time to time as the works proceed give the contractor possession of such further portions of the site as may be required to enable the contractor to proceed with the construction of the works with due dispatch in accordance with the said programme or proposals (as the case may be). If the contractor suffers delay or incurs expenses from failure on the part of BHEL or the purchaser to give possession in accordance with the terms of this clause the Engineer shall grant an extension of time for the completion of works. No financial compensation whatsoever shall be payable by BHEL on this account.
10.1	WAYLEAVES The contractor shall bear all expenses and charges for special or temporary way leaves required by him in connection with access to site. The contractor shall also provide at his own cost any additional accommodation outside the site required by him for purposes of the works.
10.2	LAND BHEL/ the purchaser will provide the land required for the permanent works and contractor may, where approved by the Engineer, use the same for temporary purposes. In case of land required for temporary purposes, such as workshop, workyard, offices, storage of materials and the like, the Engineer will, on application being made, point out the area that can be used for these purposes. No land belonging to the purchaser or under temporary the possession of BHEL shall be occupied by the contractor without the written permission of BHEL. BHEL however reserves the right to ask the contractor to vacate the area/land earlier allowed for use or to shift to another area during the period of the contract, without assigning any reasons therefore and the contractor shall be bound to comply without demur and within the time limit specified by BHEL.
11.0	COMPLETENESS OF EQUIPMENT
11.1	The equipment shall be completely installed in every respect with all mountings, fixtures and standard accessories which are normally supplied even though not specifically detailed in the Specification. The Contractor shall not be eligible for any extra payment in respect of such mountings, fittings, fixtures and accessories if needed for safe operation of the equipment as required as per applicable codes through they may not have been included in the Contract.
11.2	Parts of all similar equipment supplied shall be interchangeable with one another.
11.3	ALL the equipment supplied under this contract shall be subject to BHEL/Purchaser's approval according to applicable stipulations set-forth in the specifications.
12.0	ISSUE OF CERTIFICATE
12.1	Certificate of BHEL
12.1.1	Every application to BHEL for a certificate must be accompanied by a details invoice (in quadruplicate) setting forth in the order of the schedule of quantities and prices as per approved billing breakups of the work executed and/or goods ready for dispatch to the date of claim and the certificate as to such goods and work as in the reasonable opinion of the Engineer in accordance with the specification shall be issued within thirty (30) days.
12.1.2	The Engineer, by any certificate, make any correction or modification in any previous certificates which may have been issued by him and payments against invoices under certification will be regulated and adjusted accordingly.
12.2	BHEL's decision In respect of all matters which are left to the decision of BHEL including the granting or withholding of certificates BHEL shall, if required to do so by the contractor, give in writing a decision thereon and his reasons for taking such decision. If in the opinion of the contractor a decision made by BHEL is not in accordance with the meaning and intent of the contract, the contractor may file with BHEL within 15 days after receipt of the decision, a written objection to the decision. Failure to file such an objection within the allotted time will be considered as accordance of BHEL's decision and the decision shall become final and binding. It is the intent of the contract that there shall be no delay in the execution of the work in such cases and the decision of BHEL as given shall be promptly observed.
12.3	No certificate of the Engineer on account, nor any sum paid on account by BHEL nor any extension of time for the execution of the work by the contractor shall affect or prejudice the rights of BHEL against the contractor or relieve the contractor of his obligations for the due performance of the contract and be interpreted as approval of the work done or of the goods supplied and no certificate shall create liability in BHEL to pay for alterations, amendments, variations or additional work and ordered in writing by BHEL or discharge the liability of the contractor for payment of damaged, whether due, ascertained certified or not or of any sum against the payment of which he is bound to indemnify BHEL, nor shall any

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	such certificate nor the acceptance by him or any sum paid on account or otherwise, affect or prejudice the right of BHEL against the contractor.
13.0	GUARANTEE / WARRANTY Even though the work will be carried under supervision of BHEL engineers, contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of 12 [twelve] months from the date of start of guarantee period, as certified by the engineer for good workmanship and shall rectify free of cost all defects due to faulty work done. In case contractor fails to repair the defective works within the time specified by the engineer. BHEL may proceed to undertake the repairs of such defective works at contractor's risk and cost without prejudices to any other rights and recover the same from SD/other dues of contractor.
14.0	DEFAULTS, REMEDIES AND POWERS
14.1	Negligence If the Contractor shall neglect to execute the work with due diligence and expedition or such refuse or neglect to comply with any reasonable orders given to him in writing by BHEL in connection with the work, or shall contravenes the provisions of the Contract, BHEL may give notice in writing to the Contractor calling upon to make good the failure, neglect or contravention complained of. Should the Contractor fail to comply with such notice within a period considered reasonable by BHEL from the date of such notice service thereof, in the case of a failure, neglect or contravention capable of being made good within that time, or otherwise within such time as may be in the opinion of BHEL be reasonably necessary for making it good, then and in such case BHEL shall have the option and be at liberty to take the work wholly or in part, out of the Contractor's hand and may carry on the work envisaged in the Contract either by himself or his agents or may re-contract with any other person or persons to execute the same or any part thereof and provide any other materials, tools, tackle or labour for the purpose of completing the works or any parts thereof. In such event BHEL shall without being responsible to the Contractor for normal wear and tear of the same, be entitled to seize and take possession and have free use of all materials, tools, tackle, or other things which may be on the Site, for use at any time in connection with the Work to the exhesion of any right of the contractor over the same and BHEL shall be entitled to retain and apply any balance sum which may otherwise be then due on the contract by him to the Contractor or such part thereof as may be necessary to the payment of the cost of execution of such work as aforesaid. If the cost of completing the works or executing a part thereof as aforesaid shall exceed the balance due to the contractor, the contractor shall pay such excess.
14.2	CHANGE IN CONSTITUTION
14.2.1	Where the Contractor is a partnership firm, the prior approval in writing of the engineer shall be obtained before any changes is made in constitution of the firm. Where the Contractor is an individual or a Hindu Undivided Family business concern such approval as aforesaid shall likewise be obtained before the Contractor enters into any partnership Agreement where under the partnership firm would have the right to carry out work hereby undertaken by the Contractor. If such approval as aforesaid is not obtained the Contract shall be deemed to have been assigned in contravention of Contract Conditions and the action may be taken, and the consequences shall cause as provided in the Contract.
14.2.2	The expression "change in constitution" shall include.
14.2.2.1	Any new partner coming in or any existing partner retiring.
14.2.2.2	Any change in the profit sharing ratio.
14.2.2.3	Any alteration in the mutual right of the partners.
14.2.3	It is an agreed term and the contract that all the partners of the Contractor shall continue to be jointly and liable to BHEL in respect of the obligation to the Contractor herein and notwithstanding the resignation or retirement of any partner, his liability hereunder shall continue unless he is relieved there from by BHEL in writing.
14.3	FORFEITURE
14.3.1	If the contractor shall become bankrupt or have a receiving order made against him or shall present his petition in bankruptcy or shall make an arrangement with or assignment in favour of his creditors or shall agree to carry out the Contract under a Committee of inspection of his creditors or (being a corporation) shall go into liquidation (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) or if the Contractor shall assign the Contract without the consent in writing of BHEL first obtained or shall have an execution levied on his goods or if the Engineer shall certify in writing to BHEL that in his opinion the Contractor:
14.3.1.1	Has abandoned the Contract, or

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14.3.1.2	Without reasonable excuse has failed to commence works or has suspended the progress of the works for 15 days after receiving from the Engineer written notice to proceed, or
14.3.1.3	Has failed to proceed with the works with due diligence or
14.3.1.4	Has failed to remove materials from the Site or to pull down and replace work for 15 days after receiving from the Engineer written notice that the said materials or work had been condemned and rejected by the Engineer under these conditions, or
14.3.1.5	Is not executing the works in accordance with the Contract or is persistently or flagrantly neglecting to carry out any of his obligations under the Contract, or
14.3.1.6	Has to be detriment of good workmanship or in defiance of the Engineer's instructions to the contrary Sub-contracted any part of the Contract.
14.3.1.7	Then the Employer may after giving 14 days notice in writing to the Contractor enter upon the site & the works and expel the Contractor therefrom without thereby releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and powers conferred on BHEL or the Engineer by the Contract and may him self complete the work may employ any other Contractor to complete the works and BHEL or such other contractor may use for such completion so much of the Constructional Plant, Temporary works, materials which have been deemed to be reserved exclusively for the construction and completion of the works under the provisions of the Contract as he or they may think proper and BHEL may at any time sell any of the said Constructional plant, temporary work & unused materials & apply the proceeds of sale in or towards the satisfaction of any sum due or which may become due to him from Contractor under the Contract.
14.3.2	Valuation at date of forfeiture The Engineer shall as soon as may be practicable after expulsion of this Contractor and such entry by BHEL fix and determine experts or by or after reference to the parties or after such investigations or enquiries as he may think fit to make or institute and shall certify what amount (if any) had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and what was the value of any of the said unused or partially used materials, any constructional plant and any Temporary Works upon the Site.
14.3.3	Payment After Forfeiture If BHEL shall enter and expel the Contractor under this clause he shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of contractual period and until the costs of completion and compensation for delay in completion (if any) and all other expenses incurred by BHEL have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum of sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him then the Contractor shall upon demand pay to BHEL the amount of such excess and it shall be deemed a debt due by the Contractor to BHEL and shall be recoverable accordingly.
14.4	SUSPENSION OF WORK The Contractor shall on the written order of the Engineer suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer. The extra cost including all running wages to be paid on the Site, salaries, depreciation and maintenance of the plant at Site, on costs and general overhead costs of the Contract incurred by the Contractor in giving effect to the Engineer instructions under this clause shall be borne and paid by BHEL (provided such costs are substantiated by the contractor to the satisfaction of BHEL / the purchaser) unless such suspension is:
14.4.1	Otherwise provided for in the Contract, or
14.4.2	Necessary for the proper execution of the Work or by reason of weather conditions affecting the safety or quality of the Works or by some default on the part of the Contractor, or
14.4.3	Necessary for the safety of the Works or any part, thereof.
14.4.4	Provided that the Contractor shall not be entitled to recover any such extra cost unless he gives notice in writing of his intention to claim to the Engineer within 15 days of the Engineer's order. The Engineer shall settle and determine such extra payment to be made to the Contractor in respect of such claims as shall in the opinion of the Engineer be fair and reasonable. Provided always that BHEL shall not be liable for any claim of idle wages for men and/or equipment which are otherwise used by the Contractor during the period of suspension of work whether in the work of BHEL or otherwise. BHEL shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the

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	contractor or his subcontractor.
14.5	REMEDY OF BHEL
14.5.1	The Engineer on behalf of BHEL without prejudice to his rights against the Contractor in respect of any delay or inferior workmanship or otherwise or to any claims for damage in respect of any breaches of any of the Terms and Conditions of the Contract and without prejudice to any right or remedies under any of the provisions of this Contract or otherwise and whether the date for completion has or has not elapsed by the notice in writing, absolutely determine the Contract in any of the following:
14.5.1.1	If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstance shall arise which entitled the court or creditor to appoint a receiver or a manager or which entitle the court to make a winding up orders.
14.5.1.2	If the Contractor commits breach of any of the terms and conditions of the Contract.
14.5.2	When the Contractor has made himself liable for action under any of the cases as in sub-clause (i) above, the Engineer on behalf of BHEL shall have powers:
14.5.2.1	To determine or rescind the Contract as aforesaid (of which termination or rescission notice in writing to the Contractor under the hand of the Engineer shall be conclusive evidence). Upon such determination or rescission the Security Deposit of the Contractor shall be liable to be forfeited and shall be absolutely at the disposal of BHEL.
14.5.2.2	To employ labour and to supply materials to carry out the works or any part of the work debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respect in the same manner and at same rates as if it had been carried out by the contractor under the terms of the contract. The certificate of the Engineer as to the value of the work done shall be final and conclusive against the contractor providing always that action under this sub clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by BHEL are less then the amount payable to the contractor at the agreement rates, the difference shall not be paid to the contractor.
14.5.2.3	After giving notice to measure the work of the contractor and to take such part thereof as shall be executed out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer shall be final and conclusive) shall be borne and paid by the original contractor and maybe deducted from any money due to him by BHEL under this contract or any other account whatsoever or from his Security Deposit or the proceeds of sales thereof or a sufficient part thereof as the case may be. In the event of any one or more of the above courses being adopted by the Engineer the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on account or with a view to the execution of the work or the performance of Contract. And in case action is taken under any of the provision aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any work thereto or actually performed under this contract unless and until the engineer has certified in writing the performance of such work and the value payable in respect thereto and he shall only be entitled to be paid the value as certified.
14.5.3	In any case in which any of the power conferred upon the Engineer under this clause, shall have become exercisable and the same shall not be exercised, the non-exercised thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the Contractor and the liability of the Contractor for compensation shall remain unaffected. In the event of the Engineer putting in force all or any of the powers vested in him under this clause he may, if he so desires, giving a notice in writing to the Contractor, take possession of or (at the sole discretion of the Engineer which shall be final) use on hire (the amount of the hire money being also in the final determination of the Engineer) all or any tools, plant, materials and stores, in or upon the works, or the Site thereof, belonging to the Contractor, or procured by the Contractor and intended to be used for the execution of the work or any part thereof, paying or allowing for the same in account at the Contract rates or in the case of these not being applicable, at current market rates to be certified by the Engineer, whose certificate thereof shall be final, otherwise the Engineer by notice in writing may order the Contractor, or his clerk of the works, foreman or other authorised agent to remove such tools, plant materials, or stores from the premises (within a time specified in such notice).

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	and in the event of the Contract failing to comply with any such requisition, the Engineer may remove them at the Contractor's expense or sell them by auction or private sale on account of the Contractor and at his risk in all respects and the Certificate of the Engineer as to the expense of any such removal and the amount of the proceeds and expense of any such sale shall be final and conclusive against the Contractor.
14.5.4	No claim will be entertained from the Contractor for idle labour, stoppage of work or damage on account of unprecedented rain, storm or any unforeseen circumstances which will be responsible for the same.
14.6	RIGHTS OF BHEL
14.6.1	Without prejudice to the right conferred by the various clauses under the Contract and of their right ensuring to BHEL in the terms of contract, BHEL reserves the following rights in respect of this contract without entitling the Contractor for any compensation. To withdraw any portion of work and/or to restrict, alter the quantum of work as indicated in the Contract during the progress of the erection and get it done through other agency and/or by departmental labour to suit BHEL's commitment to the purchaser or in case BHEL decides to advance the date of completion due to other emergency reasons of BHEL's obligation to the purchaser. To terminate the Contract after a notice of 14 days when served at the last known address of the principal office of the Contractor and forfeit Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to "Compensation for Delay" in the event of:
14.6.1.1	Contractor's continued poor progress brought to notice from time to time.
14.6.1.2	Withdrawal from or abandonment of the Work by Contractor before completion of the Work.
14.6.1.3	Corrupt act of Contractor.
14.6.1.4	Insolvency of the Contractor.
14.6.1.5	Persistent disregard to the instruction in writing of BHEL.
14.6.1.6	Assignment, transfer, sub-contracting of the contract without BHEL's written permission.
14.6.1.7	Non-fulfillment of any contractual obligations. Any delay in works for reasons attributable to the contractor will have to be compensated by either increasing manpower and resources or by working extra hours and more than one shift without any extra cost. To recover any money due from the Contractor from the money which is due or which may become due to the Contractor under this Contract or any other Contract or from the Security Deposit or as debt payable by the Contract. To claim compensation for losses sustained by BHEL including BHEL's supervisions charges and overheads in completion or termination of Contract & to recover compensation for delay in completion of the work, from Security Deposit and/or from the money which is due or which may become due to the Contractor under this or any other Contract or as a debt payable by the Contractor. To terminate the Contract or to restrict the quantum of the work and pay for the portion of work executed in case BHEL's Contract with the purchaser are terminated for any reason. To effect recovery from any amounts due to the Contractor under this or any other Contract, the moneys BHEL is forced to pay to anybody, due to Contractor's failure to fulfil any of his obligations.
14.6.2	While every endeavor will be made by BHEL, BHEL can not guarantee uninterrupted work due to conditions beyond their control. Contractor will not be entitled for any compensation / extra payment on this account.
14.6.3	In the event of any dispute of any nature, the decision of BHEL shall be final and binding on the Contractor.
14.6.4	All safety rules and codes applied by the purchaser/ BHEL at the site shall be observed by the Contractor without exception. The Contractor shall be responsible for the safety of the equipment/ materials and work to be performed by him and shall maintain all light fencing, guards, sings 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 & atmospheric conditions. Suitable number of clerical staff, watch and ward, be posted at Site by the Contractor till the

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	completion of the Work under the Contract. The Contactor shall arrange for such safety device as are necessary for such type of work and carry out the requisite tests of handling equipment, lifting, tools, tackles etc, as per prescribed standards and practices.
14.6.5	Should any error or ambiguity be discovered in the specification or information, the Contractor shall forthwith bring the same to the notice of the Engineer before commencement of work. Engineer's interpretation in such cases shall be final and binding on the contractor.
14.6.6	No idle labour be admissible in the event of any case in the work resulting contractor's labour being rendered idle due to any case at any time.
14.6.7	No over run charges shall be paid in the event the completion period is extended for any reason whatsoever.
14.6.8	The quality and progress of work will be regularly reviewed. The schedule and programme of work will be given to the contractor in advance and it will be the obligation of the Contractor to achieve the desired quality and progress of work by suitably reinforcing their labour force and/or by working extra shifts at no extra costs. Workmen found unsuitable for the work will be replaced immediately by the Contractor on being informed by BHEL.
14.6.9	During the erection/ construction performing work under the Contract it is very essential that proper and adequate inspection should be made constantly to maintain the quality of workmanship so that any deviation from design dimension does not exceed permissible limits. The proper functioning of the power plant, while in operation, depends to a great extent of the above factors. For the details regarding alignment and permissible dimensioned deviation in the Work, Engineer may be consulted.
14.6.10	It is possible that some minor repair/ rectification/ modification may be needed on the equipment to be erected/ constructed/ work to be performed under this specification, for reasons not attributable to the contractor. All such repair/ rectification/ modification work which can be done with the available facilities at site shall be carried out by the contractor free of cost and no extra charges shall be paid to the contractor, unless stated otherwise elsewhere.
14.6.11	In the event of failure of the contactor to bring necessary, sufficient and proper manpower, consumables, Tools & Plants and any other input required to be brought by the contractor for proper and timely completion of the job, BHEL may arrange/ hire the same at the risk and cost of the contractor including all incidental charges for bringing these inputs from the source place. The entire cost towards these together with overhead charges as applicable or as decided by the engineer shall be paid by the contractor or deducted from the contractor's bills. BHEL may at his discretion terminate the contract or take out any part or whole of the contract from the scope of the contractor on these grounds.
14.7	CONSEQUENCES OF TERMINATION
14.7.1	Whenever BHEL exercises his authority to terminate the Contract / Withdraw a portion of work pursuant to the Contract, BHEL may complete the work by any means at the Contractor risk and cost and BHEL shall not be liable to pay the contractor's any money on account of the contract until the expiry of guarantee / warranty period and thereafter until the cost of completion including delay compensation and all other expenses incurred by BHEL have been ascertained. In the event of the cost of completion (as certified by the Engineer which shall be final and conclusive) being less than the Contract price, the advantage shall accrue to BHEL and that if cost of completion exceed the money due to the Contractor under the Contract, the Contractor shall either pay the excess amount as ordered by BHEL or the same shall be recovered from the Contractor by any other means as deemed (to be) fit by BHEL.
14.7.2	This will be in addition to the forfeitures of Security Deposit and recovery of "Compensation for Delay" and other dues payable under the Contract.
14.7.3	In case BHEL completes the work under the provisions of this clause, the cost of such completion to be taken into account in determining the excess cost to the charges to the Contract under this clause, shall consist of materials purchased and/or labour provided by BHEL with an addition of such percentage to cover supervision and overhead charges as may be decided by BHEL.
15.0	FORECLOSURE OF CONTRACT
	If at any time after acceptance of the Tender the Purchaser / BHEL shall decides to abandon or reduce the Scope of the Work for any reason whatsoever and hence not require the whole or any part of the work to be carried out, BHEL shall give notice in writing to that effect to Contractor and the Contractor shall have no claim to any payment of compensation or otherwise, whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he could not derive in consequence

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	of the foreclosure of the whole or part of the work. The contractor shall be paid at the contract rate full amount for work executed at site and in addition a reasonable amount as certified by BHEL for the items here in under mentioned which could not be utilized on the work to the full extent because of the foreclosure:
15.1	Proportionate value of the expenditure incurred on preliminary site work.
15.2	BHEL shall have the option to take over contractor's materials or any part thereof either brought to the site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in the incidental to the work), provided however, BHEL shall be bound to takeover the materials or such portion thereof as the contractor does not desire to retain. For materials taken over or to be taken over by BHEL cost of such materials shall, however, take into account purchase prices, cost of transportation and deterioration or damage which may have been caused to materials whilst in custody of the contractor. For the contractor's materials not retained by BHEL reasonable cost of transporting such materials from the site to contractor's permanent stores or to his other works, which ever is less. If materials are not transported to either of the said places, no cost of transportation shall be payable.
15.3	If any materials supplied by BHEL are rendered surplus, the same except normal wastage shall be returned by the contractor to BHEL at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to BHEL'S stores, if so required by BHEL may be included.
15.4	Reasonable compensation for transfer of tools and plants from the site to contractor's permanent stores or to his other works, whichever is less. If tools and plants are not transported to either of the said places, no cost of transportation shall be payable.
15.5	A sum to be certified by BHEL being the amount of any expenditure reasonably incurred by the contractor in expectation of completing the whole of the works in so far as such expenditure shall not have been covered by the payments in this sub clause before mentioned. Provided always that against any payments due from BHEL under the sub clause, BHEL shall be entitled to be credited with any outstanding balances due from the contractor for advances in respect of construction machinery and materials and any other sums which at the date of termination were recoverable by BHEL from the contractor under the terms of the contract. The contractor shall, if required by BHEL, furnish to him books of account, wage books, time sheets and other relevant documents as may be necessary to enable him to satisfy the reasonable amount payable under this condition.
16.0	CLAIMS
16.1	In the event of any claim made or being made against BHEL arising out of the matters referred to, in and in respect of which the contractor is liable under the contract, the contractor shall be promptly notified thereof and the contractor shall at his own expense conduct all negotiations for the settlement of the same and any litigation that may arise therefrom. BHEL shall not unless and until the contractor shall have failed to takeover the conduct of negotiations or litigation make nay admission which might be prejudicial thereto. The conduct by the contractor of such negotiation or litigation shall be conditional upon the contractor having first given to BHEL such reasonable security as shall from time to time be required by BHEL to cover the amount ascertained or agreed or estimated as case may be, of any compensation, damages, expenses, and costs on which BHEL may become liable. BHEL shall, at the request of the contractor, afford all available assistance for any such purpose and shall be paid any out of pocket expenses incurred in so doing.
16.2	In case, due to exigency or any other reason BHEL incurs costs, damages or expenses for which under the contract the contractor is liable, BHEL shall claim the same from the contractor. All such claims shall be billed by BHEL to the contractor as and when they fall due. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the contractor to properly identify such claims. Such claims shall be paid by the contractor within fifteen (15) days of the receipt of the corresponding bills and if not paid by

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	the contractor within the said period, BHEL may then deduct the amount from any money due or becoming due by him to the contractor under the contract or may be recovered by actions of law or otherwise, if the contractor fails to satisfy BHEL of such claims.
17.0	ASSIGNMENT AND SUB-CONTRACTING
17.1	Assignment The Contractor shall not assign or transfer the Contract or any part thereof or any benefit or any obligation thereof or interest therein or thereunder (otherwise than by a charge in favour of the Contractor's Bankers of any moneys due to become due under this contract) without the prior written consent of BHEL.
17.2	SUB – CONTRACTING
17.2.1	Equipment Subcontracting of work, normally should not be permitted. However, in case of unavoidable instances, the contractor may, after informing BHEL & getting his written approval along with approval of the purchaser, assign or subcontract any part of the contract other than for raw materials, for minor details or any part of the plant for which makes are identified in the contract. BHEL shall not be liable in any way, in case such approval for sub contracting is not permitted by the purchaser. Sub-contractor of the equipment not identified in the contract or any change in the identified sub-contractor shall be subject to approval by BHEL & the purchaser. The experience list of the equipment sub-contractor under consideration by the contractor for this contract shall be furnished to BHEL for approval prior to procurement of all such items /equipment. Such assignment /sub-contracting shall not relieve the contractor from any obligation, duty or responsibility under the contract. Any assignment as above without prior written approval of BHEL & the purchaser shall be null and void. For components / equipments procured by the contractor for the purposes of the contract, after obtaining written approval of BHEL/the purchaser, the contractor's purchase specifications and enquiries shall call for quality plans to be submitted by his sub-contractor alongwith their proposals. The quality plans called for from the subcontractor shall set out during the various stages of manufacture & installation the quality practices & procedures followed by the sub-contractor quality control organization, the relevant reference documents, standards used, acceptance levels, inspection of documentation raised, etc. Such quality plans of the sub-contractor shall be discussed and finalized in consultation with BHEL and shall form a part of the contract between the contractor and the sub contractor. The contractor along with the subcontractor and BHEL shall furnish a joint undertaking to the purchaser or guaranteed performance of the equipment and subsystems. The contractor should desist from seeking approval for two-tier sub-contracting which may not be permitted by BHEL/the purchaser.
17.2.2	Erection / Construction work When the job of erection/ construction is entrusted with the sub-contractor, the name of such sub-contractor should be brought to the notice of BHEL for his as well as the purchaser's approval. The credential and experience profile of such sub-contractor along with quality assurance plan are to be submitted by the contractor before starting work without which BHEL shall not entertain such proposal from the contractor. The procedure to be followed before assigning such contract are already elaborated above. Salient features of such assignment / sub-contracting are enumerated below:
17.2.2.1	The Contractor shall not sub-contract the whole of 'the works'. Except where otherwise provided by the Contract, the Contractor shall not sub-contract any part of the works without the prior written consent of BHEL/the purchaser and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any sub contractor, his agents, servants or workman as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workman.
17.2.2.2	The contractor shall make available to the Engineer, at his request, any agreement in writing entered into by the Contractor with his Sub-contractor.
17.2.2.3	BHEL shall have the right to specify the brand name/s of the bought out materials required in connection with the contract and the Contractor shall procure and use only such branded items to the extent possible to the full satisfactions of the Engineer. This shall however, not relieve the Contractor of his obligations under the Contract.
17.2.2.4	Notwithstanding the consent given by BHEL/ the purchaser for Sub-contracting, it shall be obligatory on the part of the Contractor to provide the Engineer all drawings, technical data and all other details etc. concerning the portion of work sub-contracted. It shall also be obligatory on the part of the Contractor to exercise control over quality of materials and workmanship of the portion of work sub-contracted.

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18.0	FORCE MAJEURE The following shall amount to force majeure :
18.1	Acts of God, acts of any Government, war, sabotage, riots, civil commotion, police action, revolution, flood, fire, cyclone, earthquake, epidemic and other similar cause over which the contractor has not control.
18.2	If the contractor suffers delay in the due execution of the contractual obligation due to delays caused for force majeure as defined above the agreed time of completion of the job covered by this contract or the obligations of the contract shall be extended by a period of time equal to the 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 contractor shall not be eligible for any compensation.
19.0	PATENT RIGHTS The Contractor shall defend any claim which allege in a suit of proceeding against BHEL that equipment or any part thereof constitutes an infringement of any patent, if notified promptly in writing and given authority, information and assistance for the defence and the Contractor shall pay all damages and costs awarded against BHEL in such suit or proceeding for the patent infringement and the use of equipment or part is Prohibited, the contractor shall, at his own expenses either procure for BHEL the right to continue using the equipment or replace the same with a non-infringing, or move the equipment and refund the Contract Price plus the transportation and installation costs thereof. The contractor shall indemnify BHEL from and against all claims and proceeding for or on account of infringement or alleged infringement of any patent rights, design trade mark or name or other protected rights in respect of execution of the contract.
20.0	INDEMNIFICATION OF BHEL The Contractor shall insure all his personal, tools and tackles, drawings etc. and shall also take a third party liability cover to indemnify BHEL of all liabilities such may come up due to any act or omission on the part of Contractor, his agent, representative, or sub-contractor(s) and cause harm/damage to other contractor/representatives of the Purchaser / BHEL or all or anybody rendering service to the Purchaser / BHEL or is connected with the Purchaser's / BHEL's work in any manner whatsoever. The Contractor shall necessarily indemnify BHEL in all these respects and the indemnification and insurance policy shall be subject to approval of the Purchaser/BHEL.
21.0	CORRESPONDENCE Detailed correspondence procedure will be indicated at the time of finalization of the contract. All drawings and correspondence to BHEL shall be transmitted by the contractor via air mail or alternatively by means involving the minimum time of transit.
21.1	Service of notice on contractor Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by 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 at 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.
21.2	Service of notice on BHEL Any notice to be given to BHEL under the terms of the Contractor 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.
22.0	SITE RECORD Following registers, as made available to the contractor by BHEL, is to be maintained at site in the manner as specified by the Engineer at site:
22.1	Cement Register.
22.2	Site Order Book.
22.3	Material at site account.
22.4	Hindrance Register.
22.5	Cube Test Register.
22.6	Test Check Statement.
22.7	Part Rate Statement.
23.0	CONTRACT AGREEMENT, EFFECT AND JURISDICTION

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23.1	The contractor shall within 60 days from the date of LDI but in any case before submitting his first bill for payment, enter into and execute a contract agreement (to be prepared at the cost of the contractor). In the event of the failure of the contractor to execute the contract agreement within the time specified above, BHEL may cancel the LOI and forfeit his EMD and/or SD unless this period is extended by BHEL. The agreement will be signed in seven (7) originals and the contractor shall be provided with one (1) signed original and the rest will be retained by BHEL. These General Conditions together with the specifications, tender drawings and technical particulars, tender date with subsequent agreed modification thereof, tender, all correspondences with BHEL and signed agreement and other supporting documents shall constitute the contract document(s). No variation or modification of terms and conditions of the contract documents or waiver of any of these terms and conditions shall be deemed valid unless agreed in writing and signed by the BHEL and the Contractor. The failure of either party to endorse at any time of the provisions of the contract or any right thereto or to an option herein provided shall in no way be construed to be a waiver of such provisions, rights or option or in any way to affect the validity of the Contract. The exercise by either party of any of his rights herein shall not preclude or prejudice either party from exercising the same or any other right in may have hereunder. The contract shall in all respects be deemed to be and shall be construed and shall operate as an Indian contract as defined in the Indian Contract Act 1872 and all payments thereunder shall be made in Indian Rupees unless otherwise specified.
23.2	The contract shall be considered to come into force on the date of notification of Award by the BHEL to the Contractor which may be in the form of a Fax of Award or Letter of INTENT. The law applicable to the Contract shall be the law in force in India. The Courts of Kolkata under this Contract shall have exclusive Jurisdiction in all matters arising under this Contract, including Arbitration Awards.
24.0	SETTLEMENT OF DISPUTE AND ARBITRATION
24.1	If any dispute or differences of any kind whatsoever shall arise between BHEL and the contractor, arising out of the contract for the performance of the work whether during the progress of termination, abandonment or breach of the contract, it shall in the first place be referred to and settled by the Designated Engineer (nominated by BHEL for settlement of the disputes arising out of this contract) who within a reasonable period after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the contractor who shall proceed with the work with all due diligence, whether he or BHEL required arbitration as hereinafter provided or not.
24.2	If after the Designated Engineer has given written notice of this decision to the party, no claim to arbitration has been communicated to him by the party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the contractor being dissatisfied with any such decision or if amicable settlement can not be reached then all such disputed issues shall be referred to the sole arbitration of the person appointed by BHEL.
24.3	Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL Power Sector Region issuing the Contract. It shall not be open to the Contractor to object to such arbitrator only on the ground that such arbitrator is an employee/ex-employee of BHEL or has dealt with or has expressed any opinion on any issue touching upon the Contract. The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for

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	the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Kolkata (the place from where the contract is issued)
24.4	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 by either Party for arbitration to the sole arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. 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.
24.5	The cost of arbitration shall be borne equally by the Parties
24.6	Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner.
25.0	AS-BUILT DRAWINGS
	The Contractor shall provide and keep up to date "As Built" drawings of all structures constructed and all equipment and accessories and miscellaneous metal works erected or installed. These drawings shall show all changes and revisions from the original drawings and specifications, including the exact "As Built" locations, sizes and kinds of equipment and accessories, miscellaneous metal works, embedded piping and electrical systems and other concealed items of work. These drawings shall be kept in Contractor's field office but shall be made available at all times for review of the Engineer. At the end of every work, all entries, changes or revisions made in the drawings by the Contractor shall be checked and approved by the Engineer. Reproducible prints with requisite copies of all "As Built" drawings shall be progressively handed over to BHEL after taking over of the work by BHEL/ the Purchaser.
26.0	INSURANCE
26.1	BHEL shall arrange for insuring the materials/properties of BHEL/ Customer covering the risks during transit, storage, erection and commissioning.
26.2	It is the sole responsibility of the contractor to insure the workmen, his properties including tools and plants against accident and injury while at work as required by relevant rules and to pay compensation, if any, to workmen as per Workmen's Compensation Act. This policy shall also cover the contractor against claims for injury, disability, disease or death of his or his sub-contractor's employee, which for any reason are not covered under the Workmen's Compensation Act. The liabilities shall not be less than:
26.2.1	Workmen's Compensation :- As per statutory provisions Employee's liability : As per statutory provisions.
26.2.2	The work will be carried out in a protected area and all the rules and regulations of the purchaser / BHEL in the area of project which are in force from time to time will have to be followed by the contractor.
26.3	If due to negligence and/or non-observance of safety and other precautions any accident /injury occurs to any other persons/public, the contractor shall have to pay necessary compensation and other expenses, if so decided by the appropriate authorities.
26.4	If due to contractor's carelessness, negligence or non-observance of safety precautions damage to BHEL'S /purchaser's property and personnel should occur, and if BHEL is unable to recover, in full cost from the insurance company, the balance will be recovered from the contractor. The damage is to be-reported within 48 hours of occurrence alongwith Engineers report. In the event of loss/theft of BHEL's /purchaser's property while in the custody of the contractor, it will be the responsibility of the contractor to lodge FIR with local Police authorities and furnish the details of FIR and Engineer's investigation report about loss/theft within 48 hours of occurrence . This is for the purpose of lodging insurance claim. If BHEL is unable to recover full cost from Insurance Company, the balance including deductible franchise whereas applicable will be recovered from the contractor.
27.0	WORK AT SITE

Handwritten signature/initials

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27.1	In the execution of the work, no persons other than the contractor, or his duly appointed representative, sub-contractors and workmen employed by him and his sub-contractors shall be allowed to do work at the Site, except by the special permission, in writing, of the Engineer or his representative, but access to the work at all times shall be accorded to the Engineer and representative of the Purchaser.
27.2	Nevertheless, the Contractor shall not object to the execution of works under other Packages by other contractor(s) or tradesmen whose names shall have been previously communicated in writing to the Contractor by the Engineer, and accord them every facility for the execution of works under other Packages simultaneously with his own work.
27.3	The contractor shall provide, erect and maintain at the entrance to the site an approved painted sign-board of minimum size 2m×1m, giving the name of the project, Employer's name and contractor's name. The location and layout design of the signboard shall be such as shall be approved by the Engineer.
27.4	The contractor shall in connection with the works provide & maintain at his own cost all lights, guards, fencing & watching when & where necessary or required by the Engineer or by any duly constituted authority for the protection of the works or for the safety and convenience of the public or others. Adequate precautions against fire shall be taken by the Contractor. No naked light shall be used by the contractor on the site, otherwise than in the open air, without the permission of the Engineer.
27.5	The contractor shall have total responsibility for all plants and materials etc., in his custody, stores, loose or semifinished. The contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, plant etc., and work from theft, fire, pilferage and any other damage and loss.
27.6	The contractor shall follow at site all security rules as may be framed by BHEL and/or the Purchaser from time to time regarding removal of materials from site, issue of identity cards, control of entry of personnel and all similar matters. The contractor and his personnel shall abide by all the security measures imposed by the Engineer of his duly authorised representative from time to time. The provision of the clause shall also apply to all Sub-contractors.
27.7	The work so far as it is carried out on BHEL's premises shall be carried out at such times as BHEL may approve but BHEL shall give the contractor all reasonable facilities for carrying out the work.
27.8	No female labour shall be allowed during dark hour.
27.9	The Contractor shall not employ for the purpose of executing any work under the Contract any person who is below the age of eighteen (18) years and shall pay to each labourer, for the work done by such labourer, wages, not less than the wages paid for similar work in the neighborhood. The Engineer shall have the right to enquire into and decide any complaint alleging that the wages paid by the Contractor to any labourer for the work done by such labourer is less than the wages paid for similar work in the neighborhood and to refuse giving Permission of appointment of any labourer less than eighteen (18) years of age.
27.10	The Contractor shall make regular and prompt payment of wages to the labourer engaged on the work and in no case the payment shall be delayed by more than seven (7) days following the period for which the wages are due. If it is found that workers are not paid regularly, the Contract is liable to be rescinded. The Contractor shall comply strictly with the provision of the prevailing Labour Laws.
27.11	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 representatives should be furnished to BHEL site office for record purpose.
27.12	All the properties / equipment / components of BHEL/the purchaser loaned with or without deposit to the contractor in connection with the contract shall remain the properties of BHEL/purchaser. The Contractor shall use such properties for the purpose of executor of this contract. All such properties /equipment / components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hour to the contrary. The Contractor shall return them in good condition as and when require by BHEL/purchaser. In case of non-return, loss, damage repairs etc., the cost thereof, as may be fixed by he site Engineers, will be recovered from the Contractor.
27.13	It is not obligatory on the part of BHEL to supply any tools & tackles or materials other than those specifically agreed to do so by BHEL. However, depending upon the availability, BHEL's / purchaser's handling equipment and other plants may be made available to the contractor on payment of the hire charge as fixed, subject to the conditions laid down by BHEL/purchaser from time to time. Unless paid in advance such hire charges, if applicable shall be recovered from contractor's Bill /security deposit in ONE installment.

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28.0	MANUFACTURER'S SUPERVISION The Contractor may be required to work under the guidance of the manufacturer's technical personnel, as and when needed, where the Contractor is not the manufacturer. However, this will not relieve the Contractor of his responsibility of the correctness of work done or quality of workmanship.
29.0	CONTRACTOR'S SUPERINTENDENCE
29.1	The Contractor shall give or provide all necessary superintendence during the execution of works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract.
29.2	The Contractor or a competent and authorised agent or representative approved of in writing by the Engineer (which approval may at any time be withdrawn) is to be constantly on the works and shall give his whole time to superintendence of the same. If such approval shall be withdrawn by the Engineer, the Contractor shall as soon as is practicable (having regard to the requirement of replacing him as hereafter mentioned) after receiving written notice of such withdrawal, remove the agent from the Site and shall not thereafter employ him again on the site in any capacity and shall replace him by another agent approved by the Engineer. Such authorised agent or Representative shall receive on behalf of the Contractor directions and instructions from the Engineer or the Engineer's Representative. Such directions and instructions given to the Contractor's agent or representative shall be considered to have the same force as if they had been given to the Contractor himself. The Contractor, his agent or representative shall attend when required and without making any claim for so doing, either the office of BHEL/ Engineer or the Site to receive the instructions. All the employees provided by the Contractor and employed on the site shall be the Contractor's employees and the Contractor shall be solely responsible for all liabilities in connection with their employment.
29.3	Any written orders or instruction which the engineer or his duly authorised representative may give to the said representative of the Contractor, shall be deemed to have been given to the Contractor.
29.4	The services of the Contractor's representative(s) shall be made available for such period as the Engineer may require and they shall work at all reasonable times as may be necessary to complete the work within the period specified in the Contract.
29.5	The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the works any person employed by the Contractor in or about the execution of the contract who in the opinion of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the engineer to be undesirable and such person shall not be again employed upon the works without the written permission of the Engineer. Any person so removed from the works shall be replaced as soon as possible by a competent substitute approved by the Engineer.
30.0	ENGINEER'S SUPERVISION The work shall be performed under the direction of the Engineer. The scope of the duty of the Engineer, pursuant to this Contract shall include but not be limited to the following:
30.1	Interpretation of all the terms and conditions of the Contract Documents and Specification:
30.2	Review and interpretation of all drawings, engineering data etc.
30.3	Witness or authorize his representative to witness tests & trial run etc., either at the manufacturer's works or at site as applicable, or at any place where work is performed under the Contract.
30.4	Inspect, accept or reject any equipment, any component, materials and works under the Contract;
30.5	Issue certificate of acceptance and/or certificates for progressive payments and final payment;
30.6	Review and suggest modification and improvements in completion schedule from time to time; and
30.7	Supervise implementation of the quality assurance at all stages of the Works; The contractor shall take instruction and direction only from the Engineer or from the Engineer's representative. Any supervision by the purchaser shall be deemed to be that of the Engineer or his Representative and no extra claim can arise on this score. Provided however that if the Contractor shall be dissatisfied by reason of any instruction of the purchaser, he shall be entitled to refer the matter to the Engineer who shall thereupon confirm, reverse or vary such decision.

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	Any written instruction or approvals given by the Engineer's Representative to the contractor within the terms of the delegation by the Engineer (but not otherwise) bind the contractor and BHEL, as though it had been given by the Engineer Provided always as follows;
30.7.1	Failure of the Engineer's representative to disapprove any work or materials shall not pre- judice the power of the Engineer there after to disapprove such work or materials and to order the pulling down, removal or breaking up thereof.
30.7.2	If the contractor shall be dissatisfied by reason of any decision of the Engineer's representative he shall be entitled to refer the matter to the Engineer who shall thereupon confirm, reverse or vary such decision.
30.7.3	The Engineer may at any time revoke any such delegation and shall in the event of such revocation inform the contractor in writing.
31.0	PROGRAMME OF WORK AND PROGRESS REPORT
31.1	The Contractor shall submit at such times erection and construction schedules in the form of PERT network or Bar Chart as desired by BHEL showing the programme and order in which the Contractor proposes to carry out the work. Such schedules shall be approved by the Engineer, prior to starting the Work at the Site.
31.2	During the progress of the work, the Contractor shall submit required copies of monthly progress reports and photographs and such other reports on the erection and construction works and his site organisation, as the Engineer may direct. The format of the progress report shall be finalized by the Contractor with the approval of BHEL. If at any time BHEL desires to change the format or requires any additional information, the Contractor shall comply with the same. The Contractor shall also submit an anticipated one(1) month's programme at the beginning of each month describing in detail the anticipated progress for the following month. The Contractor shall also submit every week a list of various categories of employees working under him. Monthly progress reports shall be submitted within the fifty (5) day of the month following the reporting month. The submission to and approval by the Engineer or Engineer's representative of such programme or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract.
32.0	LIABILITY FOR ACCIDENT AND DAMAGE
	The Contractor shall, except if and so far as the Contract provides otherwise, indemnify BHEL against all losses and claims in respect of injuries or damage to any person or material or plant or physical damage to any property whatsoever which may arise out of or in consequence of the execution & maintenance of the Works and against all claims, proceedings, damage, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation or damages for or with respect to:
32.1	The permanent use or occupation of land by the Works or any part thereof.
32.2	The right of BHEL/the Purchaser to execute the works or any part thereof on, over, under, in or through any land.
32.3	Injuries or damage to persons or property resulting from any act or neglect of the Purchaser /BHEL, his agent, servants or other contractor(s) not being employed by the contractor, or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the contractor, his servants or agents such part of the compensation as may be just and equitable having regard in the extent of the responsibility of the purchaser / BHEL, his servants or agents or other contractor(s) for the damage or injury.
33.0	PLANTS, TEMPORARY WORKS AND MATERIALS
33.1	All constructional plant, temporary works and materials provided by the contractor shall when brought on to the site be deemed to be exclusively intended for the construction and completion of the works and the contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of the site to another) without the consent in writing of the Engineer which shall not be unreasonably withheld. But BHEL will permit the contractor to use all such constructional plant temporary works and materials in and for the completion of the works until the happening of any event which gives right to BHEL to expel the contractor from the site and proceed with the completion of the works.

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33.2	During erection, the Contractor shall without any additional payment at all times keep the working and storage areas used by him and/or his subcontractor(s) free from accumulation of waste materials or rubbish. If these materials are not removed by the Contractor within a reasonable time as specified by the Engineer these will be removed by others and the cost of the same will be back charged to the Contractor. Any inflammable materials shall be removed forthwith on request by BHEL. Upon completion of the works the contractor shall remove from the site all the said constructional plants and temporary works remaining thereon and any unused materials provided by the contractor, packing cases, waste and debris and leave the premises in a condition satisfactory to the Engineer. In the event of failure on the part of the contractor to remove the constructional plant, temporary works or materials as aforesaid within a period of four weeks after the completion of the work, BHEL shall be at liberty to remove such plant, works or materials and claim the expenses therefore from the contractor. In case BHEL stores such plants, works or materials, he shall be entitled to such storage charges as he may claim from the contractor and in the event of failure on the part of contractor to clear the plants, works and materials after paying such expenses or charges BHEL shall sell by public auction such plants, works and materials and appropriate the proceeds towards the amount due to it and the balance if any, shall be paid to the contractor. BHEL shall be entitled to proceed against the contractor for the recovery of the deficit amount if the sale proceeds are not sufficient to cover his dues.
33.3	BHEL shall not at any time be liable for the loss of or damage to any of the said constructional plant, temporary works and materials.
33.4	TOOLS & PLANTS
33.4.1	All T&Ps including precision measuring and testing instruments, lifting devices etc. shall have to be arranged by the contractor unless otherwise specifically mentioned.
33.4.2	In the event of BHEL issue T&Ps, measuring instruments etc. the contractor and BHEL shall maintain joint protocol as per BHEL format about the condition of all T&Ps, instruments etc. taken from BHEL's custody and return to BHEL after use. The contractor shall not use these equipments for purposes other than the scope of work given in this tender document. It is the responsibility of contractor to keep these equipments always in working condition and ensure their safe return in working condition to BHEL's store subject to normal wear & tear. Non-compliance to this may entail BHEL to get the necessary repair done at the risk and cost of the contractor.
33.4.3	All the T&P, measuring instruments, etc must be mobilized at site in advance prior to actual start of the job. They must be in accordance with those recommended in the tender document, if any and must be got verified to that effect. Formal clearance in writing must be obtained from the Engineer before the contractor starts the job.
33.4.4	All T&Ps, lifting tackles and pulling devices to be used must bear valid/latest test certificates for their suitability, and the same to be furnished alongwith the offer or during execution. The contractor shall ensure deployment of reliable and calibrated Instrument, Measuring and Test Equipments (IMTE). The IMTE shall have test/calibration certificates from authorised /Govt. approved/ accredited agencies traceable to national/international standards. Retesting/ recalibration shall also be arranged by the contractor as advised by BHEL. The contractor shall also have alternate arrangement for such IMTEs so that the work does not suffer when the particular IMTE is sent for calibration. Also if any IMTE is found not fit for use, BHEL shall have the right to stop use of such IMTE and instruct the contractor to deploy proper IMTE and repeat the reading taken by the instrument failing which BHEL may deploy IMTEs and retake the readings at the contractor's cost.
33.4.5	T&P/instrument found defective /improper/insufficient or not having valid test / calibration certificate should be made good immediately as per instruction of the Engineer.
34.0	LABOUR AND LABOUR LAWS
34.1	Engagement of labours The Contractor shall employ labour in sufficient numbers to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to the satisfaction of the Engineer. The Contractor shall save in, so far as the Contract otherwise provides shall provide for the transport, housing, canteen, and payments of wages etc thereof to the labourers in accordance with relevant Statutory Rules and Regulation etc. The Contractor shall not employ in connection with the works any persons

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	who has not completed eighteen years of age. Preference should be given to the local unskilled labourers and to the local land sufferers for employments. All labour engaged by the Contractor shall be and remain the employees of the Contractor and no claim shall lie against BHEL by them or the Contractor, or any person claiming on their behalf against BHEL in respect of any right or benefit due to them in their employment. The Contractor shall have to obtain labour license from the appropriate authority as per the law at his cost and shall indemnify BHEL about his financial and other obligation arising out of labourers / workers employed by him. On obtaining the labour license, the Contractor shall submit certified photocopy of the same to BHEL.
34.2	Return of labour compliance with rules etc
34.2.1	The contractor shall if required by the Engineer deliver to the Engineer's Representative or at his office a return in detail in such form and at such intervals as the Engineer may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the contractor on the site and such other information regarding contractor's equipment as the Engineer's representative may require.
34.2.2	The contractor shall pay to the labour, employed by him either directly or through sub-contractor, rates of wages and observe hours and conditions of labour not less favorable than those established for the trade or industry in the district where the works is carried or by machinery of negotiation or arbitration to which the parties are organisation of employers and trade union's representatives respectively of substantial proportion of the employers and workers engaged in the trade or industry in the district. In the absence of any rates of wages, hours or conditions of labour so established the contractor shall pay rates of wages and observe hours and conditions of labour which are not less favorable than general levels of wages and hours and condition observed by other contractor whose general circumstances in trade or industry in which he is engaged are similar.
34.2.3	The contractor shall in respect of labour employee by him either directly or through sub contractors comply with or cause to be complied with the provisions of the payment of wages Act, 1936; minimum wages Act, 1948; Employer's liability Act, 1938; workmen's compensation Act, 1923; Industrial disputes Act, 1947; Maternity benefit Act, 1961; Mines Act, 1952 employers provident fund scheme; Employer state insurance scheme; Contract labour (regulations and abolition) Act, 1970 and other Act, rules and regulations for labour as may be enacted by the Government during the tenure of contract or any modifications thereof or any other law relating thereto and rules made thereunder from time to time and having force or jurisdiction at site.
34.2.4	The Contractor shall be liable to pay his contribution and the employee's contribution to the state insurance scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of "Employees state insurance Act, 1948" as amended from time to time. In case the contractor fails to submit full details of his account of labour employed and the contribution payable, the Engineer shall recover from the running bills of the contractor an amount of contribution as assessed by him. The amount so recovered shall be adjusted against the actual contribution payable for Employees state insurance.
34.2.5	The Engineer shall on a report having been made by the inspecting officer as defined in the contract labour (regulations and abolition) Act, 1970 have the power to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefits of workers, non-payment of wages or of deductions made from his or their wages which are non-justified by the terms of the contract or non-observance of the said contract labour regulations.
34.2.6	The contractor shall indemnify BHEL against all or any payments to be made under and for observance of the regulations aforesaid without prejudice to his right to claim indemnify from his sub-contractors.
34.2.7	In the event of the contractor committing a default or breach of any of the provisions of aforesaid contract labour regulations, as amended from time to time or furnishing any information or submitting or filling any form /register/slip under the provisions of these regulations which is materially incorrect then on the report of the inspecting officers as defined in the contract labour regulation, the contractor shall without prejudice to any other liability pay to BHEL sum not exceeding Rs. 50.00 as liquidated damages for every default, breach or furnishing, making, submitting, filling materially incorrect statement as may fixed by the Engineer and in the event of the contractor's default continuing in this respect, the liquidated damages may be enhanced to Rs. 50.00 per day for each day of default subject to a maximum ten percent of the contract price.

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34.2.8	The Engineer shall deduct such amount from bills or security deposit of the contractor and credit the same to the welfare fund constituted under the same regulations. The decision of the Engineer in this respect shall be final and binding.
34.3	Labour welfare etc
34.3.1	First Aid Facility
	The contractor shall provide and maintain adequate first aid facilities on the site with the approval and to the satisfaction of concerned public health authority. At least one of his staff shall be fully qualified in the knowledge and administration of first aid. The contractor shall be responsible for and shall make all necessary arrangements and provisions for proper medical treatment of all persons employed by him for execution of the contract at his own cost and BHEL shall not have any liability on the account. Contractor shall within 24 hours of the occurrences of any accident on or about the site or in connection with the execution works, report such accident to the engineer and to the competent authorities, whenever such report is required under the law.
34.3.2	Supply of water
	The contractor shall have regard to local conditions provide on the site to the satisfaction of the Engineer's representative an adequate supply of drinking and other water for the use of his staff and "labour employed".
34.3.3	Alcoholic liquor or drugs
	The contractor shall not otherwise than in accordance with the statutes, ordinances and government regulations or orders for the time being in force import, give barter or otherwise dispose of any alcoholic liquor or permit or suffer any such importation, sale, gift, barter or disposal by his sub-contractors, agents or employers.
34.3.4	Arms and Ammunition
	The contractor shall not give barter or otherwise dispose of to any person or persons any arms or ammunition of the any kind or permit or suffer the same as aforesaid.
34.3.5	Festivals and religious Customs
	The contractor shall in all dealings with labour in his employ have due regard to all recognized festivals, date of rest and religious or other customs.
34.3.6	Epidemic
	In the event of any outbreak of illness of an epidemic nature the contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.
34.3.7	The contractor shall at all times take all reasonable precautions to prevent any unlawful riotous or disorderly, conduct by or amongst his Employees and for the preservation of peace protection of persons and property in the neighborhood of the site against the same.
34.3.8	The contractor shall at his own expense fully comply with or cause to be complied with model rules for labour welfare as advised by Engineer or rules as framed by the government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works. In case the contractor fails to make arrangements as aforesaid, the Engineer shall be entitled to do so and recover the cost thereof from the contractor.
34.3.9	The contractor & his sub-contractor(s) shall followed the contract Labour Regulation.
34.3.10	The contractor shall be responsible for observance by his subcontractors of the foregoing clauses.
35.0	CARE OF WORKS
	From the commencement to the completion of the works, the Contractor shall take full responsibility for the care thereof and of all temporary works and in case any damage, loss or injury shall happen to the works or to any part thereof or to any temporary works from any cause whatsoever (save and except the Force Majeure" as defined earlier) he shall at his own cost repair and make good the same to the satisfaction of the Engineer so that at completion, the works shall be in good order and condition and in conformity in every respect with requirements of the Contract and the Engineer's instructions. The Contractor shall also be liable for any damage to the works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations as provided for in the Contract Documents.
36.0	OWNERSHIP OF ARTICLES OF VALUE DISCOVERED AT SITE
	All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall as between BHEL and the contractor be deemed to be in the absolute property of BHEL and the Contractor shall take

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	reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the Engineer of such discovery and carry out the Engineer's orders as to the disposal of the same.
37.0	CONVENIENCE OF PUBLIC All operation necessary for the execution of the works and for the Construction of any temporary work shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to use and occupation of public or private roads and foot paths or to use of properties whether in the possession of the Purchaser / BHEL or of any other person and the Contractor shall indemnify BHEL in respect of all claims, demands, proceedings, damage, costs, charges and expenses whatsoever arising out of or in relation to any such matter in so far as the contractor is responsible therefore.
38.0	PREVENTION OF EXTRAORDINARY TRAFFIC AND PROTECTION OF HIGHWAY The Contractor shall use every reasonable means to prevent any of the highways or bridges communicating with or on the routes to the Site from being damaged or injured by and traffic of the contractor or any of his sub-contractors and in particular shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of Plant and material from and to the Site shall be limited as far as reasonably possible and so that no damage or injury may be occasioned to such highways and bridges. Should it be found necessary for the Contractor to move one or more loads or construction plant machinery or preconstructed units or parts of units of work over part of a highway or bridge and that the moving of such load must in all probability damage – the highway or bridge unless means of protection or strengthening are carried out then the Contractor shall before moving the load on to such highway or bridge, carryout such protection or strengthening at his own cost. If during the execution of the works or at anytime thereafter BHEL or purchaser shall receive any claim arising out of the execution of the works in respect of damage or injury to highways or bridges, he shall immediately notify the same to the contractor and thereafter the contractor shall negotiate the settlement of and pay all sum due in respect of such claim and shall indemnify BHEL in respect thereof and in respect of all claims, demands, cost charges and expenses in relation thereto.
39.0	URGENT REPAIR WORK If by reason of any accident of failure or other event occurring to or in connection with the Works or any part thereof during the execution of the contract shall in the opinion of the Engineer be urgently necessary for safety and the Contractor is unable or unwilling at once to do such work or repair, BHEL may be his own or other workmen do such work or repair as the Engineer may consider necessary. If the work or repair so done by BHEL is Work which in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract all costs and charges properly incurred by BHEL in so doing shall on demand be paid by the Contractor to BHEL or may be deducted by BHEL from any money due or which may become due to the Contractor. Provided always that the Engineer shall as soon after the occurrence of any such emergency as may be reasonably practicable notify the Contractor thereof in writing.
40.0	STRIKES AND LOCKOUTS The contractor will be fully responsible for all the dispute, consequences and other issues connected with strikes, lockouts and his labour. In the event of the contractor resorting to lockout and if the strike by the contractor's labour or the lockout declared is not settled within a reasonable time, BHEL shall have the rights to get the work executed employing its own labour or through any other agencies or both and the cost so incurred by BHEL shall be deducted from the contractor's bills.
41.0	PAYMENTS AND RECOVERY
41.1	Billing Schedule The contractor shall prepare and submit to BHEL for approval phase-wise fund requirements and item-wise billing schedule (breakups of the contract price) interlinking agreed PERT network setting forth starting and completion dates for the various key phases of work within 1 month from the date of LOI. Payment under the contract excepting initial advance if any, shall be made only after the contractor's billing schedule is approved by BHEL.
41.2	Work To Measure The Engineer shall except as otherwise stated ascertain and determine by measurement the value in accordance with the contract of work done in accordance with the contract. He

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	shall when he requires any parts of the Works to be measured give notice to the Contractor's authorised agent or representative who shall forthwith attend or send a qualified agent to assist the Engineer or the Engineer's Representative in making such measurement and shall furnish all particulars required by either of them. Should the Contractor not attend or neglect or omit to send such agent then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of the work. For the purpose of measuring such permanent work as is to be measured by records and drawings the Engineer's Representatives shall prepare records and drawings month by month of such work and the Contractor as and when called upon to do so in writing shall within 14 days attend to examine and agree such records and drawings with the Engineer's Representatives and shall sign the same when so agreed and if the Contractor does not so attend to examine and agree any such records and drawings they shall be taken to be correct. If after examination of such records and drawings the Contractor does not agree to the same or does not sign the same as agreed they shall nevertheless be taken to be correct unless the Contractor shall within 14 days of such examination lodge with the Engineer's Representative, for decisions by the Engineer's a notice in writing of the respects in which such records and drawings are claimed by him to be incorrect.
41.3	Method of measurement The works shall be measured net according to the procedure set forth by the Engineer notwithstanding any general or local custom except where otherwise specifically described or prescribed in the contract.
41.4	PAYMENTS TO THE CONTRACTOR
41.4.1	Interim payments.

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	A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer for all works executed in the previous month for the purpose of interim payments, and the measurements for the purpose of having the same verify and the claim as far as possible before the expiry of 30 days from the presentation of the bill, complete in all respects. If the contractor does not submit the bill within the time fixed as aforesaid the Engineer may depute within 7 days of the date fixed as aforesaid a subordinate to measure on the said work in the presence of the contractor whose counter signature to the measurement list will be sufficient warrant and the Engineer may prepare a bill from such list. Before taking any measurement of any work as has been referred to in clauses hereinbefore the Engineer or a subordinate deputed by him shall give notice to the contractor as mentioned above. The contractor shall submit all bills in printed terms in six copies and the charges in the bills shall always be entered at the rate as specified in the tender or in case of any extra work ordered in pursuance of these conditions not mentioned or provided for in the tender at the rates provided for such work. Every interim payment certificate shall certify the contract value of the work executed up to the date mentioned in the application for the payment, provided that no sum shall be included in any interim payment certificate in respect of the work that, according to the decision of the Engineer, does not comply with the contract specification or has been performed prematurely on the date of application. Whether the contract stipulates a lumpsum as payable for the work where a lumpsum rate is stipulated in the schedule of rate in respect of any particular work or a part thereof and the works are not in at any intervening stage capable of measurement BHEL may at discretion pay on a interim bill prepared by the contractor, a percentage of the lumpsum provided for the entirety of the work or item of the work as the case may be on the basis of value assessment of such certified for payment by the Engineer. No interim payments shall be made and/ or certified for an amount less than Rs. 10,000/-. All interim payments shall be subject to deductions provided for in the contract and taxes and other money deductible within the provisions of 194-C of the income tax act or any other rule or regulations for the time being in force. All interim payments shall be recorded merely as advance payments against the amounts due to the contractor in terms of the contract and any such payment shall be without prejudice to the full rights of BHEL under the contract and the liabilities of the contractor thereunder and specifically shall not be regarded as an acceptance or completion of any work paid for in term of any interim payment or otherwise notwithstanding any verification or certification by the Engineer in respect thereof. Interim payments are only by the way of assistance to the contractor and nothing provided in the foregoing clause thereof shall in any way be deemed to confer any right or entitlement on the contractor to receive interim payment nor shall any failure or delay by BHEL to make any interim payment as herein envisaged or otherwise afford the contractor a ground or basis for extension for completion or otherwise relieve the contractor from any of his liabilities under the contract.
41.4.2	Final measurements If the contractor fails to apply to the Engineer for final measurement within a reasonable time the Engineer may of his own initiative notify the contractor of the date of taking the measurements as mention here in before.
41.4.3	Mode of measurement All measurement shall be in metric system except where expressly indicated to the contrary in the schedule of rates or other contract documents and shall be as per relevant Indian Standards.
41.4.4	Final Bill On the basis of final measurement entered in the Measurement Books / Sheets the Contractor shall prepare final bill in prescribed form with reference to the total work covered by the contract, such bill to be draw up by applying the applicable rate (s) specified in the schedule of rates to the relative measure quantity (ies). The final bill shall be submitted to BHEL for payment in sextuplicate accompanied by certificate of completion of works duly signed by Engineer or his Representative /owner's representative relating to works covered

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	by the final bill. Final payment to the contractor may be withheld by BHEL while any claim, demand, proceedings, suits etc. for which under the Contract the Contractor is liable remains unsettled.
41.5	Payments due from contractor All costs, damages, penalties or expenses for which under the contract the contractor is liable to BHEL may be deducted by BHEL from any money due or becoming due to the contractor under this or any other contract with BHEL or from the security deposit or performance bond or bank guarantee (s) issued by the contractor or as debt due from the contractor or may be recovered by action at law or otherwise from the contractor. Such deduction or recovery affected by BHEL shall be without prejudice to any other right or remedy which BHEL may have under the contract.
41.6	Withholding of payment BHEL may withhold the whole or part of any payment due to the Contractor, which in the opinion of BHEL, is necessary to protect himself from loss on account of.
41.6.1	Defective work not remedied or guarantees not met.
41.6.2	Claim filed against the contractor.
41.6.3	Failure by the contractor to make due payment for materials or labour employed by him.
41.6.4	Damage to another contractor and
41.6.5	Damage to equipments, instruments and other materials issued to the Contractor. No levy or payment or charge made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied or demanded or charged.
41.7	Liens If at any time, there should be evidence of any lien or claim for which BHEL might have become liable and which is chargeable to the Contractor, BHEL shall have the right to retain out of any payment then due and thereafter to become due an amount sufficient to completely indemnify the Contractor against such lien and such claim be valid BHEL may pay and discharge the same and deduct the amount so paid from any money which may be or may become due and payable to the Contractor. If any item or claim remains unsatisfied after all payments are made, the Contractor shall refund or pay to BHEL all moneys that the latter may be compelled to pay in discharging such lien or claim including all costs and reasonable expenses.
42.0	CONTRACTOR TO INFORM HIMSELF FULLY
42.1	Inspection of site before submission of offer. The Contractor shall inspect and examine the Site and its surroundings and shall satisfy himself before submitting the tender as to the form and nature of the Site, the quantities and nature of the work and materials necessary for the completion of the Works and the means of the site, the accommodation he may require, the labour position at the site, and in general shall himself obtain all necessary information as to the risks, contingencies and other circumstances which may influence or effect his tender.
42.2	Correctness and sufficiency of rates The Contractor by tendering shall be deemed to have satisfied himself as to all the condition and circumstances affecting the rates & prices stated in the priced schedule of items of work, as to the possibility of executing the works as shown and described in the Contract, as to the General circumstances at the Site and as to the General labour position at the Site, and to have fixed his rates and prices according to his own means to cover all his obligation under the Contract and all matters and things necessary for proper execution, completion of the contract as no additional allowance, except as otherwise expressly provided, will afterwards be made beyond the rates and prices stated in the price schedule of work. The Contractor alone shall be responsible for any misunderstanding or incorrect information however obtained except information given in writing by the Engineer.
43.0	DETAILS CONFIDENTIALS
43.1	The Contractor, his Employees and agents shall treat the Contract and everything contained therein as private and confidential. They shall not disclose any information or drawings or documents furnished to the Contractor by BHEL or Engineer or Engineer's Representative. All drawings reports and other information prepared by the Contractor or by BHEL or jointly by both for the execution of Contract shall not be disclosed without the prior written permission of the Engineer.
43.2	The Contractor shall not permit the drawings or other documents entrusted to the Contractor to be inspected copied or extracts taken there from by any person (other than is lawfully necessary for the performance of the Contract). No photographs of the Works or

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	the plant within the Site premises shall be taken without the prior written permission of the Engineer. The Contractor shall not use the site for the purpose of advertising except with the prior written permission of the Engineer. Above such permission may if granted be subject to such conditions as the Engineer may prescribe. The provisions of this clause shall also apply to all the Sub-contractors.
44.0	EXPLOSIVE Explosive shall not be used on the work by Contractor except with permission in writing of the Engineer and the manner and to the extent to which he is prescribed, where explosive are used, the same shall be stored in the special magazine to be provided by and at the cost of the Contractor who shall be liable for all damages, loss and injury to any person or property and shall be responsible for complying with all statutory obligations, in these respects.
45.0	MEMBERS OF STAFF ETC NOT PERSONALLY LIABLE Neither any member of BHEL'S staff nor the Engineer, nor the Engineer's representative shall be in any way personally liable for the acts or obligations under the contract or answerable for any default or omission on the part of BHEL in the observance or performance of any of the acts, matters, or things which are herein contained.
46.0	POST TECHNICAL AUDIT OF WORK AND BILLS BHEL reserves the right to carry out the post payment audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and to enforce recovery of any sums becoming due as a result thereof provided however that no such recovery shall be enforced after 4 years of passing and setting the final bill.
47.0	NON WAIVER OF DEFAULTS Failure of BHEL to insist upon strict performance of any terms and conditions of the contract will not be deemed a waiver of any rights or remedies that BHEL may have and will not be deemed a waiver of any subsequent default under the terms and conditions of the Contract. No right or remedy will be exclusive of any other right or remedy and BHEL will have all rights and remedies given under the Contract and now or hereafter existing in law or by statute.
48.0	GENERAL GUIDELINES FOR FIELD ACTIVITIES The activities to be rendered by the contractor shall broadly include (except otherwise specified in the contract) but not limited to the following:
48.1	Arranging issue of materials from site 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 is officially taken over the BHEL/purchaser after complete erection and successful trial run & commissioning etc. as applicable.
48.2	Transportation of materials to their respective places of erection and erection of the complete plant & equipment as supplied under this specification.
48.3	The contractor shall co-operate with BHEL/purchaser and other contractors working in site and arrange to perform his work in a manner so as to minimise interference with other contractor's works. The BHEL's engineer shall be notified promptly of any defect in other contractor's work that could affect the contractor's work. If rescheduling of contractor's work is requested by BHEL's Engineer in the interest of overall site activities, the same shall be complied with by the contractor. In all cases of controversy, the decision of BHEL shall be final and binding on the contractor without any commercial implication.
48.4	It may sometimes be necessary to remove some of the erected structural members to facilitate erection of bigger/pre-assembled equipment. In such case, the removal and re-erection of such members, which are essential, and if so agreed by the Engineer, will have to be done by the contractor at his cost.
48.5	Attachment welding of necessary instrumentation tapping points, thermocouple pads, root valves, condensing vessels, flow nozzles and control valves etc. Both for regular measurement and performance testing to be provided on equipment, its auxiliaries or pipelines covered within the scope of this tender, will also be the responsibility of the contractor and the same will be done as per the instructions of Engineer. The erection and welding of all above items will be the contractor's responsibility, even if :
48.5.1	Product groups under which these items are released are not covered in the scope of this tender.
48.5.2	Items are supplied by an agency other than the contractor.
48.6	Preservation of all materials / equipment under custody of the contractor during storage, pre-assembly & erection, commissioning etc, shall be the responsibility of the contractor. All necessary preservatives and consumables like paints, etc., shall be arranged by the contractor. Necessary touch up painting, periodic application of preservatives/paints on

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	pressure parts/other equipment even after erection until completion of work shall be carried out by the contractor.
48.7	It is responsibility of the contractor to do the alignment etc., if necessary, repeatedly to satisfy Engineer, with all the necessary tools & tackles, manpower etc., The alignment will be complete only when jointly certified so, by the contractor's Engineer & BHEL. Also the contractor should ensure that the alignment is not disturbed afterwards.
48.8	Additional temporary platforms required for approaching different equipment as per site requirement, which may not be indicated in drawings, shall be fabricated and erected by the contractor. The materials required for these works shall be supplied by the contractor (except otherwise specified in the contract) and he will have to fabricate them to suit the requirement.
48.9	Before erection of any equipment on a foundation, the contractor shall check and undertake if necessary rectification of foundation bolts reaming of holes, drilling of dowels, matching of bolts and nuts, making new dowel pin etc.
48.10	Assistance for calibrating /testing the power cylinders, valves, gauges, instruments etc., and setting of actuators coming under various groups shall be provided by contractor.
48.11	It shall be the responsibility of the contractor to provide ladders on columns for initial works till such time stairways are complete. For this, the ladder should not be welded on the column and should be prefabricated clamping type. No temporary welding on any structural member is permitted except under special circumstances with the approval of BHEL.
48.12	Structural materials required for the supporting /operating platforms required for the valves at various levels for the same operation of valves will be arranged by BHEL (except otherwise specified in the contract). Fabrication and erection of the same is deemed to be in the scope of the contractor.
48.13	All empty containers, packing materials, gunny bags, transport frames as also surplus and unused materials shall be the property of BHEL/the purchaser and shall be returned to the purchaser's scrap yard/store as directed by BHEL from time to time within the plant boundary.
48.14	Site welding & heat treatment. Welding shall be done in accordance with IS-813, IS-816, IS-9595 & other relevant IS/ International standards. Only those welders, who are qualified as per IS-817 for ordinary welds and as per IBR/ASME Section-IX for high pressure welds, shall be employed in job. All welders shall be tested and approved by Engineer before they are actually engaged on the work even though they may possess the requisite certificates. BHEL reserves the right to reject any welder without assigning any reason. The welder identification code as approved by the Engineer shall be stamped by the welder on each joint done by them. The contractor will be responsible for the periodic renewal, re-testing of the welders as demanded by BHEL. The Engineer is entitled to stop contractor's any welder from his work. If his work is unsatisfactory for any technical reason or there is a high percentage of the rejection of joints welded by him, which in the opinion of Engineer will adversely affect the quality of welding even though the welder has earlier passed the tests. The welders having passed the tests do not relieve the contractor from his contractual obligations, to check the performance of the welders. All charges for testing of welders including destructive and non-destructive tests if conducted by BHEL or by the inspection authority at site shall have to be borne by the contractor. The necessary test materials and consumables will have to be arranged by the contractor and all testing facility made available, as required. All welded joints shall be subject to acceptance by Engineer Inspection of welds shall be in accordance with IS-822 or equivalent code. Preheating/postheating and stress relieving after welding are part of fabrication and erection work and shall be performed by the contractor in accordance with the instruction of Engineer. Unless otherwise specified, contractor shall arrange to supply heating equipment with automatic recording devices. Also the contractor shall have to arrange for the labour, heating elements, thermocouples, compensating cables, isolations materials like mineral wools, asbestos cloth, ceramic bricks, asbestos rope, etc. required for the heat-treatment and stress relieving hours. During pre-heat/stress relieving operation, the temperature shall be measured at one or more points as required by attaching thermocouples and recorded on a continuous printing type recorder. All the record graphs for the heat treatment works carried out shall be got signed by the Engineer prior to the commencement of each cycle and handed over to Engineer on completion. The graphs will be the property of BHEL. Also, the contractor has to provide thermo-chalks temperature recorders, thermocouple

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	attachments, units, graph sheets etc, required for the job & maintain them in good condition. All electrodes shall be backed and dried in the electric/ electrode drying oven to the required temperature and for the period specified by the Engineer before they are used in erection work. The electrodes used shall be as per IS-814, IS-815, IS-1442, IS-9200 and other codes as applicable, and shall be of approved by reputed manufacture. The electrodes shall meet the requirement of the pipe materials. No electrodes manufactured more than 12 months ago and the type covered under certificate issued after conducting tests more than 6 months ago shall be used. All electrodes shall be preserved at works and at site as per manufacturer's recommendations. Oxy-acetylene flame or Exo-thermic chemical heating for stress relieving is not permitted. Heating shall be by means, of electric induction coil or electric resistance coil. It may become necessary to adopt inter layer radiography /MPT/UT depending upon the site/technical requirement interruptions in continuation of the work and making necessary arrangement for carrying out the above work. Gas tungsten arc welding process (TIG) shall be adopted for all root pass welds except for structural works until 4.75 mm thickness is deposited. Subsequent welding after root pass can be carried out by manual metal arc welding with coated electrodes. For pipes of thickness less than 6 mm the entire welding has to be carried out by TIG welding. Fillet weld shall be made by shielded metal arc process as per applicable codes. However, the Engineer will have the option of changing the method of welding as per site requirement. The method adopted for manual arc welding shall be weaving technique are the width of weaving shall not exceed 1.5 times of the diameter of the electrode. In case of deviation from welding process and electrodes, the Contractor shall take approval of BHEL prior to adoption of same. The root pass for butt joints shall be such as to achieve full penetration with complete fusion of root edges. Each pass shall be cleared and freed of slag before the next pass is deposited. On completion of each run, craters, weld irregularities, slag etc shall be removed by grinding or chipping. Each layer of welding shall have an even and smooth appearance. Welding sequence shall be adjusted in such a way that distortion due to welding shrinkage is minimised. Further any movement, shock or vibration during welding shall be avoided to prevent weld cracks. Proper protection of welders and the work shall be taken during periods of rain. No welding shall be carried out when surface to be welded are wet from any cause. Following will be stages of inspection during welding:
48.14.1	Two pieces to be joined shall be individually checked for the weld edge preparation and profile dimensionally and to the template. Dye penetrant check shall be carried out on edge prepared surfaces at random. The percentage will depend on criticality as specified by Engineer.
48.14.2	Joint fit up will be a stage of inspection. Misalignment after fit up may vary from 0.3 mm to 1.6 mm depending on outside diameter and thickness.
48.14.3	All joints shall be offered for visual inspection after root run. Subsequent welding should be made only after the approval of root run. All welded joints shall be painted with anti corrosive paint immediately on completion of radiography and stress relieving.
49.0	INSPECTION / QUALITY ASSURANCE/QUALITY CONTROL
49.1	The work covered under the specification shall be subject to stage wise inspection by BHEL/ the purchaser.
49.2	The contractor has to follow BHEL FQA checklists / Quality plan/ other documents, pertaining to the work covered under the specification, as per instruction of the Engineer.
49.3	Protocols between the contractor and BHEL/Purchaser shall be made by the contractor as per requirement of BHEL/ Purchaser. Preparation of quality assurance log sheets and other quality control and quality assurance documentation as per instruction of the Engineer is within scope of the contractor.

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49.4	A daily log book shall be maintained by every supervisor /engineer of the contractor on the job in duplicate (one for BHEL and one for the contractor) for detailing and incorporating various inspection details. All important measurements shall be recorded in the daily log book with sketches based on drawings indicating readings /measurements actually taken and signed by BHEL's / purchaser's /contractor's representative. The contractor shall adopt suitable quality assurance programme to control all activities pertaining to the scope of work, as necessary. Such programmes shall be outlined by the contractor and shall be finally accepted by BHEL/ purchaser. A quality assurance programme of the contractor shall generally cover the following:
49.4.1	Organisation structure and qualification data of key personal of the contractor for the management and implementation of the proposed assurance programme.
49.4.2	The procedure for source inspection, incoming raw material in section, verification of materials purchased etc.
49.4.3	System for maintenance of records.
49.4.5	General requirement – quality assurance
49.5.1	All materials, components & equipment covered under this specification shall be procured, manufactured, erected, commissioned and tested, as applicable, at all the stages, as per a comprehensive Quality Assurance Programme. An indicative programme of inspection / tests to be carried out by the contractor for some of the major items is given in the respective technical specification.
49.5.2	Field Quality Plans will detail out the quality practices and procedures etc to be followed by the contractor's Site Quality Control organisation, during various stages of site activities from receipt of materials / equipments at site.
49.5.3	Castings and forgings used for construction shall be of tested quality. Details of results of chemical analysis, mechanical property test results, as necessary, shall be furnished.
49.5.4	All welding shall be carried out as per procedure drawn and qualified in accordance with requirements of ASMC. Section IX/BS-4870 or other International equivalent standard acceptable to the purchaser / BHEL. All welders etc employed on any part of the contract at contractor's works or at site shall be qualified as per ASME Section IX or BS-4871 or equivalent international standard approved by the purchaser/ BHEL. Such qualification tests shall be conducted in presence of purchase's /BHEL's authorised representative.
49.5.5	All non destructive examination (NDT) shall be carried out in accordance with approved international standard. The NDT operator shall be qualified as per SNT-TC-IA (of American Society of non destructive examination). Results of NDT shall be properly recorded and submitted for approval.
49.5.6	All the purchase specifications for the major bought out items test of which shall be drawn up by the contractor and finalized with the purchaser/BHEL shall be furnished to the Purchaser/BHEL for comment and subsequent approval before orders are placed.
49.5.7	Purchaser /BHEL reserves the right to carryout quality audit and quality surveillance of the system and procedures of the contractor's quality management and control activities. The contractor shall provide all necessary assistance to enable the purchaser/BHEL to carryout such audit and surveillance.
49.5.8	Quality audit /approval of the results of tests and inspection will not prejudice the right of the purchaser /BHEL to reject an equipment / service not giving the desired performance and shall not in no way limit the liabilities and responsibilities of the contractor in earning satisfactory performance of equipment/ service as per specification.
49.5.9	Repair /rectification procedures to be adopted to make any job and acceptable shall be subject to the approval of the purchaser / BHEL.
49.6	It is further clarified to Cl. No. 10.6.VI of General Conditions of Contract – Instructions to Tenderers that the prime bidder in the Consortium Arrangement shall mean the bidder as applicable in terms of relevant clauses of GCC (definition of terms).
50.0	OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME BHEL, Power Sector (ER) is ISO 9001:2000 certified company. Quality of work to customer's satisfaction and fulfillment of system requirements are the essence of ISO 9001 certification. BHEL, PSER is having HSE certification (ISO 14001 & OHSAS 18001) also Contractor will organise/ plan/ perform all their activities to meet with the applicable requirements of these standards.
50.1	HSE (Health, safety & Environment)

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	Contractor will comply with HSE (Health, safety & Environment) requirements of BHEL. HSE requirements in brief, are given below :-
50.1.1	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.
50.1.2	The contractor shall ensure that proper job specific health check-up is done by medical professional for their employees during initial mobilization and thereafter if there is any change of job.
50.1.3	Following personnel protective equipments (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured :- - HELMET - SAFETY GOGGLES & WELDING FACE SHIELDS - SAFETY BELTS AND PROTECTIVE NET FOR WORKING AT HEIGHT - SAFETY SHOES - EAR PLUG - ANY OTHER SAFETY EQUIPMENT REQUIRED FOR SAFE COMPLETION OF THE WORK
50.1.4	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.
50.1.5	Arranging ambulance in case of any emergency situation .
50.1.6	Identification of nearest hospital and health check-up of workmen/employees
50.1.7	Providing filtered drinking water at work place in cool container.
50.1.8	Providing Canteen, Rest Room, Washing facilities to the contracted employees as per provisions of Contract Labour Regulation Act 1970 (Chapter V).
50.1.9	Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
50.1.10	Identification of nearest fire station and display contact telephone nos. / person's name around work places for cases of emergencies .
50.1.11	Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
50.1.12	Fulfilling safety requirements at all power tapping points.
50.1.13	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.
50.1.14	Providing contractors company logo on cloths /uniform/ proper identity cards with photographs, for correct identification of people working at project site .
50.1.15	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.
50.1.16	Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place .
50.1.17	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.
50.1.18	All T&Ps/ IMTEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL.
50.1.19	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.
50.1.20	Safety slogan, Safety/ Caution boards , wherever required to be displayed in consultation with BHEL.
50.1.21	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

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	management (including proper waste disposal) on daily basis.
50.1.22	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.
50.1.23	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.
50.1.24	All applicable OCPs (Operational control procedures) will be followed by contractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below . 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) will be made available to contractor during work execution at site. However for reference purpose, these are kept with sub-contracting officer of BHEL at PSERHQ/ Kolkata, which may be refereed by contractor, if they so desire. ■ OCP for safe handling of chemicals ■ OCP for Electrical safety ■ OCP for energy conservation ■ OCP for safe welding and gas cutting operation ■ OCP for fire safety ■ OCP for safety in use of hand tools ■ OCP for first aid ■ OCP for food safety at canteen ■ OCP for safety in use of cranes ■ OCP for storage and handing of gas cylinders ■ OCP for manual arc welding ■ OCP for safe use of helmets ■ OCP for good house keeping ■ OCP for working at height ■ OCP for safe excavation ■ OCP for safe filling of Hydrogen in cylinder ■ OCP for illumination ■ OCP for handling and erection of heavy metals ■ OCP for safe acid cleaning ■ OCP for safe alkali boil out ■ OCP for safe oil flushing ■ OCP for steam blowing ■ OCP for safe working in confined area ■ OCP for safe operation of passenger lift, material hoists & cages ■ OCP for Vehicle maintenance ■ OCP for safe radiography ■ OCP for waste disposal ■ OCP for working at night ■ OCP for blasting ■ OCP for DG Set ■ OCP for handling & storage of mineral wool ■ OCP for drilling, reaming and grinding(machining) etc. ■ OCP for hydraulic test ■ OCP for spray insulation ■ OCP for trial run of rotary equipment ■ OCP for stress relieving ■ OCP for material preservation ■ OCP for cable laying/tray work ■ OCP for electrical maintenance ■ OCP for transformer charging ■ OCP for safe handling of battery system ■ OCP for computer operation ■ OCP for storage in open yard ■ OCP for sanitary maintenance ■ OCP for batching ■ OCP for piling rig operation

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	■ OCP for gas distribution test ■ OCP for cleaning of hotwell / deaerator ■ OCP for electro-resistance heating ■ OCP for compressor operation ■ OCP for O&M of control of AC plant & system ■ OCP for air compressor ■ OCP for passivation ■ OCP for Safe EDTA Cleaning ■ OCP for Safe Chemical cleaning of Pre boiler system ■ OCP for Safe Boiler Light up ■ OCP for Safe Rolling and Synchronisation ■ OCP for Safe Loading of Unit
50.2	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 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.
50.3	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.
50.4	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.
50.5	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.
50.6	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.
50.7	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.
50.8	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.
50.9	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.
50.10	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 violently.
50.11	When cylinders are transported by powered vehicle they shall be secured in a vertical position.
50.12	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.

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50.12.1	Safety Helmets conforming to IS-2965 : 1984
50.12.1	Safety Belts conforming to IS-3521:1983
50.12.3	Safety Shoes conforming to IS-1989 : 1978
50.12.4	Eye and face protection devices conforming to IS – 8620 : 1977 & IS – 8950 : 1978.
50.12.5	Hand and body protection devices conforming to IS – 2575 : 1975 and IS – 6994 : 1973, IS – 8907 : 1970 & 8619 : 1977. 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.
50.13	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.
50.14	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 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.
50.15	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.
50.16	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.
50.17	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. Defective equipment shall be removed from service. Any equipment shall not be loaded in excess of its recommended safe working load.
50.18	The contractor shall provide necessary first aid facilities 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.
50.19	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.
50.20	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 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.
50.21	The contractor shall at his cost, remove from vicinity of work at least once each day all combustible waste, scrap, panting 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.

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50.22	The contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
50.23	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.
50.24	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.
50.25	Valve protection caps shall be kept in place and secured.
50.26	The contractor shall be responsible for the safe storage and handling of his radio-active sources as per BARC rules and regulations.
50.27	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.
50.28	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.
50.29	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.
50.30	The contractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.
50.31	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.
50.32	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.
50.33	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.
50.34	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 then 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.
50.35	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.
50.36	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 quality wood or steel shall be provided and the ladder shall be given an inclination not steeper then ¼ horizontal and 1 vertical.
50.37	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 form saver, from swaying, from the building or structure.
50.38	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

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	width which shall not be less than 750 mm and be suitably fenced as described above.
50.39	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.
50.40	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.
50.41	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 ¼" for each additional foot of length.
50.42	A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.
50.43	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.
50.44	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.
50.45	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 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 timber 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.
50.46	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.
50.47	Before any demolition work is commenced and also during the process of the work.
50.47.1	All roads and open areas adjacent to the work site shall either be closed or suitably protected.
50.47.2	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.
50.47.3	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.
50.48	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.
50.48.1	Workers employed on mixing asphalted materials, cement and lime mortars shall be provided with protective foot wear and protective goggles.
50.48.2	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.
50.48.3	Those engaged in welding works shall be provided with welder's protective eyesight lids.
50.48.4	Stone breakers shall be provided with protective goggles and protective clothing and seated sufficient to safe intervals.
50.48.5	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.
50.48.6	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.

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50.48.6.1	No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
50.48.6.2	Suitably 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.
50.48.6.3	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.
50.49	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.
50.50	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, insulting 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.
50.51	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.
50.52	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.
50.53	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.
50.54	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.
50.55	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.
50.56	To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangement made by the contract shall be open to inspection by the Engineer of the Engineer's Representative.
50.57	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.
50.58	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 all consequences, damages, or losses arising by reason of any safety code shall be met with by the Contractor.
50.59	GENERAL REQUIREMENTS OF QUALITY ASSURANCE Contractor's Engineers and supervisors shall be adequately qualified and also inclined to do a quality job. Contractor will designate one of their engineers as Quality Assurance Engineer. The Quality Assurance Engineer shall co-ordinate all aspects of quality control, inspection, implementation of quality assurance procedures laid down in Quality Plan and technical specification by BHEL. He shall fill up quality assurance logsheets / formats and submit to BHEL for joint inspection and acceptance.

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50.59.1	The contractor shall adopt suitable quality assurance programme to control activities as necessary. Such programme shall be outlined by the contractor and shall be finally accepted by the BHEL/Owner. A quality assurance programme of the contractor shall generally cover the following:-
50.59.1.1	His organisation structure and qualification data of key personnel for the management and implementation of the proposed quality assurance programme.
50.59.1.2	System for site erection control including process controls and fabrication and assembly controls.
50.59.1.3	Control of non-conforming items and system for corrective actions.
50.59.1.4	Inspection and test procedure for all site related works.
50.59.1.5	Calibration and testing of Measuring and Monitoring Devices (MMDs) at appropriate intervals.
50.59.1.6	System for quality audit.
50.59.1.7	System for indication and appraisal of inspection status.
50.59.1.8	System for maintenance of records.
50.59.2	All materials, components and equipment covered under this specification shall be erected, commissioned and tested at all the stages, as per a comprehensive Quality Assurance Programme.
50.59.3	Quality audit/approval of the results of tests and inspection will not prejudice the right of BHEL to reject an equipment not giving the desired performance after erection and shall not in no way limit the liabilities and responsibilities of the Contractor in earning satisfactory performance of equipment as per specification.
50.59.4	Repair/rectification procedures to be adopted to make any job acceptable shall be subject to the approval of BHEL/ Owner.
50.59.5	Filling up of different quality log sheets as desired and directed by BHEL/owner at different stages of inspection of erection & commissioning activities after due checking by BHEL/owner and get the same signed by concerned engineers.
51.0	LIST OF STANDARDS FOR REFERENCE
51.1	International Standards Organisation (ISO).
51.2	International Electro-technical Commission (IEC).
51.3	American Society of Mechanical Engineers (ASME).
51.4	American National Standards Institute (ANSI).
51.5	American Society for Testing and Materials (ASTM).
51.6	American Institute of Steel Construction (AISC).
51.7	American Welding Society (AWS).
51.8	Architecture Institute of Japan (AIJ).
51.9	National Fire Protection Association (NFPA).
51.10	National Electrical Manufacturer's Association (NEMA)
51.11	Japanese Electro-technical Committee (JEC).
51.12	Institute of Electrical and Electronics Engineer (IEEE).
51.13	Federal Occupational Safety and Health Regulations (FOSHR).
51.14	Instrument Society of America (ISA).
51.15	National Electric Code (NEC).
51.16	Heat Exchanger Institute (HEI).
51.17	Tubular Exchanger Manufacturer's Association (TEMA).
51.18	Hydraulic Institute (HIS).
51.19	International Electro Technical Commission Publications.
51.20	Test Code for Steam Turbines (PTC).
51.21	Applicable German Standards (DIN).
51.22	Applicable British Standards (BS).
51.23	Applicable Japanese Standards (JIS).
51.24	Electric Power Research Institute (EPRI).
51.25	Standard of Manufacturer's Standardization Society (MSS).
51.26	Bureau of Indian Standards Institution (BIS).
51.27	Indian Electricity Acts & Rules.
51.28	Indian Boiler Regulations (IBR).
51.29	Indian Explosives Act.
51.30	Indian Factories Act.
51.31	Tariff Advisory Committee (TAC) rules.
51.32	Emission regulation of Central Pollution Control board (CPCB).

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51.33	Central Board of Irrigation and Power (CBIP) Publications.
51.34	Any other statutory Codes / Standards/Regulations.

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