



Bharat Heavy Electricals Limited
Electronic Systems Division, Electronics City, Bangalore – 560 100.

(A Govt.of India Undertaking)
Electronics Systems Division, Plot No.98, Phase-I, Electronics city,
Hosur Road, Bangalore-560 100

NOTICE INVITING TENDER

Tender Reference :	BHE/316/FS-Civil/15-16 dated: 28.08.2015
Name of the work	Construction of emergency escape staircase and aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD
Earnest money deposit	Rs. 20,000.00
Last date and time for the receipt of completed tender	18/09/2015 (Friday): 1300Hrs
Date and time for tender opening :	18/09/2015 (Friday): 1330Hrs
Place of submission of completed tender:	To be dropped in the tender box kept at <u>reception area in BHEL-ESD, Plot No.98, Electronics City Phase-I, Bangalore - 560100.</u>
Submission of tender	Tender to be submitted in two parts in separate sealed covers, i.e. Part-I Technical-Cum-Commercial Bid, and Part-II Price Bid.
Address	The tender must be addressed to AGM-FS, BHEL-Electronics Systems Division Plot No. 98, P.B. No. 22910 Electronic City Phase- I, Hosur Road, Bangalore -560100
Additional Note :	This tender is web hosted. Kindly check our web sites, www.bhel.com and www.bheledn.com for any amendments /corrigendum before quoting.

This tender document contains page 01 to 23

Note: The tenderer shall return the duly filled in Tender Documents after affixing signature and seal on all pages.

Issued by:

Date:



1.0 General information & Scope of work

1.0 Scope of work:

Scope of work includes construction of emergency escape staircase and aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD, Bangalore for the full, final and entire completion of all Civil Engineering works as detailed in specifications and drawings, which forms part of this Contract.

The scope of work under this contract shall cover supply of all materials, labour, tools, and plants etc., unless otherwise specified in the specifications, descriptions of items or in Part-II price bid schedule.

This is a turnkey project and involves the complete setup with all finishing works. The scope covers all the activities as described in the technical specifications and part II price Bid.

Any other material/ materials which is not specifically mentioned in the tender document but is required for the completion of work will be supplied by the vendor. Further there may be variation in the actual amount of material used and done. Payment will be made as per the actual work done after completion of work and submission of invoice.

Inspection of customer location: The bidder is requested to visit the location before submission of offer to ensure the rate quoted for the relevant schedule of items are correct.

1.1 Technical specifications:

(A) Construction of Emergency escape staircase for New Production block at BHEL-ESD:

- I. Construction of emergency escape staircase for new production block at BHEL-ESD involves activities like demolishing existing drain, excavation, laying cement concrete PCC 1:4:8, centering and shuttering, providing reinforcement steel, laying cement concrete for foundation 1:1:2, providing structural steel work for superstructure staircase, reconstruction of demolished drain and finishing works like painting, etc., as listed in the Part-II A price bid schedule.

(B) Providing Aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD:

- I. Providing aluminium glass partition/door involves supply and fixing of aluminium frames, glass along with other accessories like lock, handle, tower bolt, etc., as listed in the Part-II B price bid schedule.

Contractor should take care of the safety measures at all stage of work as per Annexure-C particularly working at heights, working during night time, etc., by issuing proper PPE's to the labours deployed.



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2.0 Essential Criteria (Mandatory)

1. The Tenderer should have Experience of having successfully completed similar work with any Govt. organizations /PSU / Public Limited Company/ Private limited companies during last 3 years of either of the following: -

- a. Three similar completed works costing not less than 3.60 lakh.
or
- b. Two similar completed works costing not less than 4.51 lakh.
or
- c. One similar completed work costing not less than 7.36 lakhs.

Completion certificate for the above to be provided.

2. The Tenderer should have an established office set up in Bangalore.

3. The bidder shall have a minimum average turnover of Rs.2.70 Lakhs per year for the last three consecutive years ending 31st March of the previous financial year. The Bidder shall submit proof of turnover.

4. Bidder should have valid registration under Excise/ Service Tax Acts. The corresponding documentary proof to be furnished.

6. BHEL reserves the right to reject any or all the bids at any time without assigning any reason whatsoever. The opinion / decision of BHEL regarding the acceptance or rejection of the bid shall be final and conclusive.

7. The above conditions (sl. No.1. to 6) of 2.0 must be fulfilled by the tenderer. Otherwise the tender will be summarily rejected

3.0 Payment Terms:

- (i) 100% payment will be made after completion of the work and certification by user department.
- (ii) Payment will be made as per actual work done.
- (iii) Payment will be through Electronics Fund transfer (EFT) only.
- (iv) Security deposit at the rate 10% of contract value shall be payable by the successful Contractor as per clause mentioned below.



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Security Deposit:

On award of contract, the successful Contractor should pay an amount of 10% of contract value towards Security Deposit before commencement of the work.

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

- a. Cash (as permissible under the Income Tax Act)
- b. Pay Order, Demand Draft in favour of BHEL
- c. Local cheques of Scheduled Banks, subject to realization
- d. Securities available from post Officers such as National Savings Certificates, Kisan Vikas Patras etc.
- e. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- f. Fixed Deposit Receipt issued by scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/c BHEL, duly discharged on the back.
- g. Security Deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the security Deposit should be collected before start of the work and the balance 50% may be recovered from the running bills.

The Security Deposit shall not carry any interest.

Security Deposit will be refunded to the contractor on satisfactory completion of the contract and warranty period on submitting all the required documents / Returns / Proof of compliance to all applicable statutes.

MSME/NSIC Registration.

MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II certificate having deemed validity (Two years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with CA certificate applicable for the year, certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders and MSE status of such supplier shall be shifted to Non MSE supplier till the supplier submits these documents.



4.0 SPECIAL CONDITIONS OF CONTRACT:

1. SAFETY PRECAUTIONS

The contractor shall at times observe the safety code and make necessary action as required in the tender. In default thereof, the employer may get this done departmentally or through other agencies and recover the cost from the contractor.

The Contractors shall also abide by all the security regulations promulgated from time to time by employer

2. Statutory Deduction towards Income Tax will be made as per rules.

3. The Contractor is required to take insurance for all workers employed on works towards payment for workmen compensation. The insurance has to be taken out within 15 days of the award of work and has to be produced at the time of signing agreement.

However the contractor shall be fully responsible for all the consequences arising out of such default. This may also be read with clause 20 of BHEL GCC.



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PART – I
Techno-Commercial Bid

(Information to be provided by the contractor)

1	Name of the Work	Construction of emergency escape staircase and aluminum glass partition/door parallel to rolling shutter for new production block at BHEL-ESD	
2	Name of the Bidder		
	a) Address for correspondence		
	b) Contact person with Telephone Nos. and email id.		
4.	Scope of supply & work	Understood / Not Understood	
5	BHEL'S Payment Terms	Acceptable / Not Acceptable	
6	Technical bid with all pages signed and filled is submitted.	Enclosed / Not enclosed	
7	a)Whether EMD is submitted along with the Technical Bid	Yes / No	
	b) Demand Draft (Fill DD No. and Date)		
8	Type of Firm (please tick & fill the details)		
Sl.	Type	Income Tax PAN	
i)	Proprietary		
ii)	Partnership		
iii)	Company		
iv)	Others		
09	Service Tax Registration No. (Copy to be enclosed):	Yes / No	
10	Whether registered with ESI/PF authority	Yes / No	
	ESI Register No. (If yes indicate No.)		
	PF Register No. (If yes indicate No.)		



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11	<p>The Tenderer should have Experience of having successfully completed similar work with any Govt. organizations /PSU / Public Limited Company/ Private limited companies during last 5 years of either of the following: -</p> <p style="margin-left: 40px;">a) Three similar completed works costing not less than 3.60 lakhs. or b) Two similar completed works costing not less than 4.51 lakhs. or c) One similar completed work costing not less than 7.36 lakhs.</p> <p>Details to be given below: Copy of Completion certificate/work order to be attached.</p>
	<p>1.</p> <p>2.</p> <p>3.</p>
12	<p>Average turnover:</p> <p>2014-15:</p> <p>2013-14:</p> <p>2012-13:</p>

Note: If any of the above mentioned criteria is not met the bid will be rejected.

Declaration:

I / We hereby declare that I / We have not been banned and de-listed by any Government Department / Financial Institution / Court.

Further declare that the information provided above is true and if found incorrect the tender will likely to be rejected at the discretion of BHEL.

Signature
(Name & Address of the Tenderer with Official Seal)



LIST OF INDIAN STANDARD

Following is the list of various Indian Standards,
Relevant to the Civil Engg., work

1. EARTH WORK

- i) IS 1200-1992, Method Part I Earthwork, Measurement of Building, and Civil Engineering works, and chapter No.2 of CPWD/specification 1977.

2. MORTAR (PLASTERING)

- 1) IS 2394-1984: Code of practice for application of lime plasters finish.
2) IS 1661-1972: Code of practice for application of cement lime plasters finish.
3) IS 2402-1963: Code of practice for external rendered finishes.

3. CONCRETE WORK & RCC WORK

- 1) IS 456-2000: Code of practice for plain and reinforced concrete.
2) IS 432(part 1) –1982(Third Revision): Mild steel and medium tensile steel bars
3) IS 1766-1998: Cold twisted steel bars for concrete reinforcement.

4. BRICK WORK

- 1) IS 2212-1991: Code of practice for brick work.

5. STONE WORK

- 1) IS 1597-1992 (Part – I & II): Code of practice for construction of stone masonry.

6. MARBLE WORK

- 1) IS 1124-1974: Methods of test for water absorption of natural building works.

7. STEEL WORK

- 1) IS 800-2007(Third Revision): Code of practice for use of structural Steel in general building construction.
2) IS 1308-1984: Steels doors, windows and ventilators
3) IS 1081-1960: Code of practice for fixing glazing of metal (steel & aluminium doors, windows & ventilators)
4) IS 1161-1998: Steel tubes for structural purposes.
5) IS 4351-2003: Steel doorframes.
6) IS-6245-5245-1971: Metal rolling shutters and rolling grills.



8. FLOORING

- 1) IS 2114-1984: Code of practice for laying in situ terrazzo floor finish.
- 2) IS 2571-1970: Code of practice for in situ cement concrete flooring.
- 3) IS 5318-1969: Code of practice of laying of flexible P.V.C. sheet & tiles flooring.

9. ROOFING

- 1) IS 3007(pt-I)-1999: Code of practice of laying of corrugated cement sheets.

10. FINISHING

- 1) IS 133-2004: Enamel, Interior (a) under coating (b) Finishing colour as required.
- 2) IS 348-1968: French Polish.
- 3) IS 427-2005: Distemper, dry colour as required.
- 4) IS 425-1969: Distemper, oil emulsion as required.
- 5) IS 5410-1992: Cement paint, Colour as required.
- 6) IS 5411 (pt.1)-1974: Plastic emulsion paint for interior use.
- 7) IS 6278-1971: Code of practice for white washing & colour washing.

11. DEMOLITION AND DISMANTLING.

- 1) IS 1200 (pt 18)-1974: Method of measurements of demolition and dismantling.

12. SAFETY CODE

- 1) IS 5916-1970: Safety code for construction including use of hot bituminous materials.
- 2) IS 4130-1991: Safety code for demolition of building.
- 3) IS 3754-1966: Safety code for excavation works.
- 4) IS 3696(Pt-1)-1987: Safety code for Scaffolds.



LIST OF MATERIALS OF APPROVED BRAND OF MANUFACTURERS

1. Door Shutters : Kutty Flush Doors and Furnishers Co.,
Commercial ply teak Mysore Plywood
Veneered flush shutters Nikky
With ISI make. Assam

2. Door framed cold rolled : NSL section, T.I. Section
framed sheet sections
conformed sheet to
IS 4351-1976.

4. Commercial Ply/teak : Anchor, Mafatlal, Arch, National
Veneered ply block board.

5. Aluminium Sections : a) Indal
b) Zindal

6. Cement : a) Zuari
b) ACC
c) Cormandala
d) Ultratech
e) Birla
f) Rassi

7. Reinforcement steel : a) TISCO
b) SAIL
c) VISL



ANNEXURE-A

GENERAL CONDITIONS OF CONTRACT

It is hereby agreed by me/us that the BHEL General Conditions of Contract including subsequent amendments/ additions/deletions to clauses if any, and conditions pertaining the settlement of disputes by Arbitration form an integral part of the tender documents and that the tender submitted by me/ us is subject to the aforesaid BHEL General Conditions of Contract which has been read and accepted by me/us.



ANNEXURE-B

FORM OF TENDER

Having examined the invitation to bid, Instructions to Bidder, General conditions of contract, special conditions, specifications tender schedule, contract drawings and other documents for the above work, we the undersigned, offer to construct, erect complete and maintain the whole of the said in conformity with the said bid documents on the terms and conditions and under the provisions set out or called for in the contract documents at the rates listed in the schedule of unit prices or else wherein the contract documents.

We undertake if our bid is accepted, to commence the works within 7 days from the date of issue of award and to complete and delivery the whole of the works comprised in the contract as per the time schedule agreed to the contract document.

We agree to abide by this bid for the period of three months from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before expiry of the period.

Until and unless a formal agreement is prepared and executed this bid, together with your award thereof shall constitute a binding contract between us.



ANNEXURE-C

SAFETY CODE
RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF
SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT

1. Before commencing the work, contractor submits a “SAFETY PLAN” to the authorized BHEL Official. The ‘SAFETY PLAN’ shall indicate in detail the measure that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder. The contractor shall submit Safety Plan along with his offer. During negotiations before placing of work order and during execution of the contract BHEL shall have right to review and suggest modification in the Safety Plan. Contractor shall abide by BHEL decision in this respect.
2. The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or its authorized officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.
3. The contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials:-Safety Helmets conforming to IS-2925: 1984.
 - (i) Safety Belts conforming to IS-3521: 1983.
 - (ii) Safety Shoes conforming to IS-1989: 1978.
 - (iii) Eye and Face protection devices conforming to IS-8520: 1977 and IS-8940: 1978.
 - (iv) Hand and body protection devices conforming to:
 - IS-2573: 1975
 - IS-6994: 1973
 - IS-8807: 1978
 - IS-8519: 1977

All tools, tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipment’s etc. used by the contractor shall be of safe design and construction. These



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shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.

All electrical equipment's, connections and wiring for constructions power, its distribution and use shall conform to the requirement of the Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined space lighting shall be arranged with power sources of not more than 24 volts.

The Contractor shall adopt all fire safety measures as laid down in the "Code for fire Safety at Construction Sites" issued by the Safety Department of the Construction Management (HQ) of BHEL and as per directions of the authorized BHEL official. A copy of the above referred "Code of Fire Safety at the Construction Sites" shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.

Where it becomes necessary to provide and/or store petroleum Products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down in the relevant government acts, such as Petroleum Act, Explosives Act, Petroleum and Carbides of Calcium Manual of the Chief Controller of Explosives, Govt. of India. etc., prior approval to the authorized BHEL official at the site shall also be taken by the contractor in all such matters.

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural daylight may not be adequate for clear visibility.

The contractor shall be held responsible for any violation of statutory regulations local, state or central and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or another contractor or agencies. Cost of damages if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.



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In case of a fatal or disabling injury accident to any person at construction sites due to the lapses by the contractor, the victim and/or his/her dependents 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 the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

In case of any damage to property by the contractor, BHEL shall have the right to recover cost of such damages from payments from payments due to the contractor after holding an appropriate enquiry.

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor; BHEL shall have to recover cost of such delay from payments due to the contractor, after notifying suitably and giving him opportunity to present his case.

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a 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 instructions regarding safety issued by the authorized BHEL official, 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 seven days indicating the steps that would be taken by BHEL.

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrence to the authorized BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, the contractor to the authorized BHEL official shall also submit periodic reports on safety from time to time as prescribed.

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

If safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion the job.



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ANNEXURE –D

**ELECTRONIC FUNDS TRANSFER (EFT) OR
 PAYLINK DIRECT CREDIT FORM**

Please Fill Up the form in CAPITAL LETTERS only:

TYPE OF REQUEST (Tick one): CREATE _____ CHANGE: _____

BHEL Vendor/Supplier Code:

Company Name:	
Permanent account	
Number(PAN):	
Address:	

City: _____

PINCODE

STATE

Contact Person(s)	
Telephone No:	
Fax No:	
E-Mail-Id:	

1. Bank Name:
2. Bank Address:
3. Bank Telephone No:
4. Bank Account no:
5. Account Type: Saving/Cash Credit
6. 9 Digit Code Number of Bank and branch
7. Bank Swift Code (applicable for EFT only)
8. Bank IFSC Code (applicable for RTGS)
9. Bank IFSC Code (applicable for NEFT)

Appearing on MICR cheque issued by Bank



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I here certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorize BHEL,EDN, Bangalore to electronically deposit payments to the designated bank account. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL/Transferring Bank responsible. This authority remains in full force until BHEL - EDN Bangalore receives written notification requesting a change or cancellation.

I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS/EFT.

Date:

Authorized Signatory:
 Designation:
 Telephone No. with STD Code
 Company seal

BANK CERTIFICATE

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date: (.....)

Place: Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharat Heavy Electricals Ltd.,
 Attn:
 Electronics Division, Mysore Road,
 BANGALORE -560026



ANNEXURE-E

Ref.
Date:

SITE INSPECTION CERTIFICATE

This is to certify that, I/We..... had inspected the proposed construction site thoroughly and understood the scope of works to be carried out in line with construction drawings/designs/data/Bill of quantities/ schedule of items specifications as brought out in the tender as desires by BHEL.

Agreeable to all Terms & Conditions of Contract and assure to complete the work within the stipulation time frame.

Signature of contractor

Name:

Seal



ANNEXURE-F

UNDERTAKING

We undertake that any person entering the factory premises of BHEL for the above work or incidental works thereto sustaining any injury or any other hardship while being inside factory premises of BHEL will be compensated and taken care by ourselves. BHEL will not have any responsibility or liability under any law rules or notifications of statutory authorizes and we undertake to indemnify BHEL for any loss or hardship caused to BHEL under such circumstances. We also confirm that all the laws, regulations and statutory notifications have been complied with by us and no liability or responsibility will lie on BHEL on this behalf.

(To be submitted on company's letter head and with signature of authorized person)



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(PART-II) PRICE BID – ABSTRACT

Tender Ref. BHE/316/FS-Civil/15-16 dated: 28.08.2015

Construction of emergency escape staircase and aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD

SI No	DESCRIPTION OF WORK	Amount	
		Rs.	Ps.
A	Construction of emergency escape staircase for new production block at BHEL-ESD.		
B	Aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD		
	TOTAL		

TOTAL VALUE IN WORDS

Note: - The lowest bid (L1) shall be arrived based on the total amount for SI No. A and SI No. B combined. (A + B).

Signature

(Name & Address of the Tenderer with Official Seal)

Place:

Date:



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(PART-II) PRICE BID - SCHEDULE							
Construction of emergency escape staircase and aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD.							
Sl. No.	DESCRIPTION OF WORK	QUANTITY	UNIT	Rate in Figure and words		Amount	
				Rs.	Ps.	Rs.	Ps.
A	Construction of emergency escape staircase for new production block at BHEL-ESD.						
1	Demolishing stone rubble masonry manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge: In cement mortar	18.75	CUM				
2	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	5	CUM				
3	Demolishing brick/block work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. In cement mortar	2.32	CUM				
4	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead (Outside factory premises), for all loads including all lifts involved.	30	CUM				
5	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	42	CUM				
6	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	40	CUM				
7	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	2.61	CUM				
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:1:2 (1 Cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size)	11.22	CUM				
9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Hot rolled deformed bars	1400	KG				
10	Centering and shuttering including strutting, propping etc. and removal of form for :						
a)	Footing and pedestals	19.9	SQM				
b)	Plinth beam	15.3	SQM				
11	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with : Cement mortar 1:6 (1 cement : 6 coarse sand).	2.7	CUM				
12	15 mm cement plaster on rough side of single or half brick wall of mix. 1:4 (1 cement: 4 coarse sand) - External	36	SQM				



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13	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications : Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand or manufacture	100	SQM		
14	Structural steel work in single section fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	2300	KG		
15	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc. including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes.	1800	KG		
16	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc. including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge. (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)	100	KG		
17	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In stringers, treads, landings etc. of stair cases including use of chequered plate wherever required, all complete.	800	KG		
18	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm + 0.05 %, total coated thickness with zinc coating 120 gsm as per IS: 277 in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches while transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	2	SQM		
TOTAL VALUE FOR CONSTRUCTION OF EMERGENCY ESCAPE STAIRCASE:					



Bharat Heavy Electricals Limited
Electronic Systems Division, Electronics City, Bangalore – 560 100.

B Aluminium glass partition/door parallel to rolling shutter for new production block at BHEL-ESD					
1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling to be paid for separately) :				
a)	For fixed portion: Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	65	KG		
b)	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required. Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	75	KG		
2	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 8 mm thickness	32	SQM		
3	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	2	EACH		
4	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge.	8	EACH		
5	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	4	EACH		
6	Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete: 250x10 mm	2	EACH		
7	Providing and fixing ISI marked aluminium butt hinges anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete: 125x75x4 mm	16	EACH		
8	Providing and fixing aluminium pull bolt lock anodised ISI marked (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws bolts, nut and washers etc. complete.	2	EACH		
TOTAL VALUE FOR ALUMINIUM GLASS PARTITION/DOOR:					