



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

## **Bharat Heavy Electricals Limited**

(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 :	<b>BHE/ESD/IT&amp;S/13-14/14 dated:30/08/2013</b>
Name of the work	<b>OFC network cabling for BHEL-ESD</b>
Earnest money deposit	<b>₹ 40,000/-</b>
Last date and time for the receipt of completed tender	<b>13/09/2013 (Friday): 1300Hrs</b>
Date and time for tender opening :	<b>13/09/2013 (Friday): 1330Hrs</b>
Place of submission of completed tender:	To be dropped in the tender box kept at reception area in BHEL-ESD, Plot No.98, Electronics City Phase-I, Bangalore - 560100.
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 SDGM- IT&S, 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, <a href="http://www.bhel.com">www.bhel.com</a> and <a href="http://www.bheledn.com">www.bheledn.com</a> for any amendments /corrigendum before quoting.

This tender document contains the following:

1. **General information & Scope of work -Page No. 2**
2. **BOM, Specifications & Essential Criteria- Page No. 2 to 6**
3. **Commercial terms and Conditions - Page No. 7 to 9**
4. **Form 1: Format to be filled by contractors - Page no. 10 to 11**
5. **Form 2 : Price bid format – Page no. 12-13**
6. **General terms & Conditions ( consisting annex. A to E)**

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

Issued by : 

Date: 30/8/2013



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**1.0 General information & Scope of work**

**1.1 General Information**

BHEL Electronics System Division (ESD), which is part of EDN operations is located at Electronics City, Hosur Road, Bangalore and covers an area of 12.4 acres. Presently the unit manufactures Defence Electronics Products, Control Equipment, Space batteries and Space panels. The campus has a number of buildings and these buildings need to be connected by fibre optic cabling. All the fibre cables need to be terminated in server room which is in the first floor of New engineering building.

**1.2 Scope of work:**

Scope of supply includes Supply, laying and Termination of Fiber Optic cables between buildings at ESD. Supply of Fiber Optic Cables and laying of the cables between all the buildings in ESD as per the list of locations enclosed- Annexure 1

The main core switch/switches will be provided by BHEL in the First floor of the new Engineering building. All the OFC cables will be laid in HDPE pipes in the ground. Wherever the cables are in the building they will be enclosed in suitable PVC pipes which will be fixed to the walls by clamps.

Termination (including supply of SM Connectors, fiber patch cords, consumables etc.) and testing of the Fiber Optic cable network is in the scope of the vendor. Also Vendor has to fix OFC markers.

This is a turnkey project. Any other material/ materials which is not mentioned in the tender document but is required for the completion of project will be supplied by the vendor. Further there maybe variation in the actual amount of material used and laid. Payment will be made as per the amount of material used.

Excavation will be done by M/s BHEL.

**Inspection of customer location : The vendor is requested to visit the location before quoting.**

*M. J. J.*



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**1.3 Bill of material :**

**(A) Bill of Materials-Supply, Termination & Testing:**

The following materials should be supplied: Acceptable makes have been provided.

Sno	ITEMS	Unit	QTY.	Acceptable makes
1	12-Fiber, 9/125 microns, <b>Single mode</b> fiber optic cable in jelly filled unitube construction, suitable for Direct burial, laying on trays etc., with corrugated Steel Tape armour, embedded FRP strength members and outer PE Jacket.	meters	1400	Birla Erricson, Digilink, Amp/Tyco, Terracom,3C-link, Molex,3C,R&M,Systemax
2	LC-SC SM Connectors having Zirconia ferrule in compliance with JIS CS973 F04 type 2.5mm. With Push pull mechanism with insertion loss < 0.5dB.	Nos.	192	D-link, Molex, Amp/Tyco, Digilink,Panduit,3C-link,3C,R&M,Systemax
3	No. of Termination	Nos.	192	
4	32mm HDPE Pipe with Accessories	Meters	1300	Mangalam, Rishi
5	19" Rack Mountable Fiber Patch Panel(LIU) with 12 Duplex Coupler Loaded	Nos.	4	Amp/Tyco,3C-Link,Digilink,3C,R&M,Systemax
6	19" Rack Mountable Fiber Patch Panel(LIU) with 06 Duplex Coupler Loaded	Nos.	8	Amp/Tyco,3C-Link,Digilink,3C,R&M,Systemax
7	LC-SC SM Fiber Patch Cords- 3 Meters	Nos.	16	D-link, Molex, Amp/Tyco, Digilink,Panduit,3C-link,3C,R&M,systemax
8	8" Cable Ties (Packet of 100)	Nos.	4	
9	SFP Module GLC-LH-SM	Nos.	16	Cisco
10	600*600/12U Wall mount double rack with white power coated lockable glass door.2U horizontal 5*5/15A Indian round pin power distribution unit-Hardware packet - Rack Ground Kit	Nos.	5	Valrack, Matrix
11	OFC markers	Nos.	26	
12	Cat 6 UTP Cable (Drum of 305 mtrs)	Nos.	5	Amp/Tyco, 3C-link,Digilink,3C,R&M,Systemax
13	1" PVC pipe/conduit	meter	200	Finolex or Equivalent



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### B)The work carried out is as follows:

#### Labour

Sl. No.	Description of Work	Unit	Qty
1	Labour charges for OFC Cable laying	meters	1400
2	Labour charges for 32mm HDPE pipe laying	meters	1300
3.	Labour charges for SM Connectorization including fiber patch panel fixing	Nos.	192
4.	Labour charges for fiber testing and documentation	Nos.	192

#### 1.4 SPECIFICATIONS of OFC cables:

##### A) Technical Specification of OFC cable:

12-Fiber in jelly filled Unitube construction, 9/125 microns, **Single mode** fiber optic cable suitable for direct burial, laying on trays etc., with corrugated Steel Tape armour, embedded FRP strength members and outer PE Jacket.

- a. The optical fiber core shall be of ultra-pure fused silica glass coated with UV-cured acrylate suitable to withstand temperature of about 80Deg C.
- b. Fiber shall be housed in groups of 12.
- c. Fiber optic cables should be installable on cable tray, duct bank, cable trench as necessary. The cable shall be armoured with Poly Ethylene Sheathing.
- d. Cable shall be routed through suitable grade permanently lubricated HDPE protection pipe as per IS 4984, IS 12235 & TEC.G/CDS-08/01 of suitable size @53% fill factor.

##### B) Cable construction:

- a. Fiber strength member shall be FRP rods .
- b. Cable shall be dual jacketed.
- c. Inner sheath shall consist of a MDPE jacket extruded over cable core
- d. A co-polymer coated corrugated steel tape is to be wrapped around the inner jacket to provide additional cable compression strength and rodent protection.
- e. A ripcord shall be placed underneath the armour for easy outer jacket removal.

M. J. S. S.



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**C) General Specification:**

- a. *Core Diameter:* 9microns + 0.5micron
- b. *Cladding Diameter:* 125 $\mu$ m  $\pm$  1.0 $\mu$ m
- c. *Cladding non-circularity:*  $\leq$ 1.0%
- d. *Attenuation Co-efficient:* i) 1290 nm to 1340 nm: <0.36dB/km  
ii) 1525 nm to 1575 nm: <0.25 dB/km
- e. *Armour:* Corrugated steel tape (0.155mm Min)
- f. *Outer jacket:* High-density polyethylene, anti-termite,  
Anti-Rodent, Suitable for direct burial application, direct laying on Cable trays
- g. *Colour coding:* - Standard

**D) Installation:**

- a. Min Bend Radius : 20 x outer diameter
- b. Location : Lashed, Aerial, direct burial or duct
- c. Pulling : Ordinary cable grips

**E) Operating:** Min Bend Radius : 10 x outer diameter of the cable

**F) Temperature:** -10°C to + 60°C

**G) Stripping ability:** All layers easily removed with commercially available tools.

**H) Immunity:** The cables shall be immune to corrosive element found naturally in the ground.

**I) Life of cable:** Optical fiber cable shall provide a life expectancy of minimum 25 years and shall meet industrial standard of operation at temperature of 55Deg C and humidity to 100% without degradation to optical or mechanical performance

**J) Length of the cable drum:** The lengths are as indicated in the Annexure. Each Roll should have a tolerance of +5%.



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**2.0 Essential Criteria (Mandatory)**

1. The Tenderer should have Experience of having successfully completed similar OFC networking projects 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 5 lakhs.  
or
- b. Two similar completed works costing not less than 6.2 lakhs.  
or
- c. One similar completed work costing not less than 10 lakhs.

Completion certificate for the above to be provided.

2. The Tenderer should have an established office set up in Bangalore with 24x7 support.

3. The bidder shall have a minimum average turnover of Rs 5 Lakhs per year for the last three consecutive years ending **31<sup>st</sup> March of the previous financial year**. The Bidder shall submit Audited Balance Sheet and profit and loss account of the company for the last three consecutive years for proof of turnover.

4. All the products shall be manufactured by a firm whose quality system is in compliance with I.S/ISO 9001 & IS 14001/conforming to equivalent international standards.

5. Bidder should have valid registration under CST / VAT, 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 7) of 2.0 must be fulfilled by the tenderer. Otherwise the tender will be summarily rejected



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**3.0 Commercial Terms & Conditions**

**3.1 Main terms**

Sl.No.	Specifications	Requirements	Acceptance by Vendor
1	Price	Price quoted must be basic price and all the applicable taxes are to be clearly mentioned in the offer. The price for supply and for laying & commissioning is to be shown separately.	
2	Price bid format	Price is to be quoted in the price bid format attached.	
3	Warranty	Warranty for all the items of 18 months from the date of supply or 12 months from the date of commissioning whichever is earlier. The liability will be limited to replacement of defective parts arising solely from faulty design, materials and / or workmanship with cost of laying and termination and any visits for same. Maintenance calls of any major breakdowns should be attended and rectified within 1 working day of the call being recorded.	
4	Delivery	Delivery Period: material is to be delivered within 4 weeks from the date of order.  Installation Period: 4 weeks from availability of the site as per communication provided by M/s BHEL, user dept.  Delivery Location: BHEL ESD, Electronics city, Bangalore	
5	Supply Condition	All equipment supplied and installed shall be new and conforming to the contract technical specifications. The	



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		certificate of newness is to be furnished.	
6	Service window 24x7	The service provider will have a fault logging service which will operate 24x7.	
7	Submission of EMD	EMD of ₹. 40,000/- in the form of Pay Order/ Bank Draft in favour of “Bharat Heavy Electricals Limited” payable at Bangalore must be submitted along with the tender. In the absence of submission of EMD, the offer is liable for rejection. The Earnest Money will be refunded to the unsuccessful tenderers after finalisation of the award of work.	
8	Payment	75% within 30 days of supply + 25% within 30 days after commissioning and certification by user department. Payment both for labour and materials will be made as per the actual quantity of materials supplied and installed and actual labour work done.	
10	Penalty clause	Penalty of 0.5% per week of WO value, upto a maximum of 10% is applicable for delayed delivery. Date of receipt shall be considered as delivery date for supply for the purpose of penalty calculation.	
11	Taxes and duties	All applicable taxes must be clearly stated in the offer in price bid .	
12	All Payments will be made by EFT only.	EFT details as required by BHEL may be provided by the vendor along with offer in format as provided.	
13	Submission of Invoices	Invoices must be submitted to the consignee/billing address provided below.	
14	Consignee & Billing	Smt. Mercy Jacob, SDGM- IT&S,	



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	address	BHEL-Electronics Systems Division Plot No. 98, P.B. No. 22910 Electronic City Phase- I, Hosur Road, Bangalore -560100	
15	Submission of Security deposit.	Security deposit of 10% of contract value on award of the contract is applicable details provided in 3.2.	
16	Consignee contact nos.	Smt. Mercy Jacob, SDGM- IT&S, Phone : 080-25146124 Mobile : 9449832145	
17	Validity of offer	3 months from the date of opening of technical bid	

**3.2 Other Commercial Terms:**

**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 on submitting all the required documents / Returns / Proof of compliance to all applicable statutes.



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**Part – 1**

**Information to be provided by the contractor**

**Techno-Commercial Bid**

1	Name of the Work	<b>OFC network cabling for BHEL-ESD</b>	
2	Name of the Bidder		
	a) Address for correspondence		
	b) Contact person with Telephone Nos. and email id.		
4.	Scope of supply	Understood / Not Understood	
5.	<b>BHEL'S Payment Terms</b>	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)		
<b>8. Type of Firm (please tick &amp; fill the details)</b>			
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	The Tenderer should have Experience of having successfully completed similar OFC networking projects 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 5 lakhs. or		



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	b) Two similar completed works costing not less than 6.2 lakhs. or c) One similar completed work costing not less than 10 lakhs.  Details to be given below:  Copy of orders to be attached.
	1. 2. 3.
11	Average turnover: 2012-13: 2011-12: 2010-11:

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)

*Handwritten signature*



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**(PART-II) PRICE BID – Format**  
**Tender Ref. BHE/ESD/IT&S/13-14/14 dated: /08/2013**

**OFC network cabling for BHEL-ESD**

**A) Supply**

Sl. No.	Description of Work	Unit	Qty	Basic Price (Rs.)	Extended Price (Rs.)	VAT (%)	VAT amt. (Rs.)	Total Rate (Rs.)
1	12 core OFC SM Outdoor Cable	meters	1400					
2	LC-SC SM Connectors having Zirconia ferrule in compliance with JIS CS973 F04 type 2.5mm. With Push pull mechanism with insertion loss < 0.5dB	Nos.	192					
3.	19" Rack Mountable Fiber Patch Panel with 12 Duplex Coupler Loaded	Nos.	4					
4.	19" Rack Mountable Fiber Patch Panel with 6 Duplex Coupler Loaded	Nos.	8					
5	LC-SC SM Fiber Patch Cords- 3 Meters	Nos.	16					
6	32mm HDPE Pipe with Accessories	meters	1300					
7	600*600/12U Wall mount double rack with white power coated lockable glass door.2U horizontal 5*5/15A Indian round pin power distribution unit-Hardware packet - Rack Ground Kit	Nos.	5					
8	SFP Module GLC-LH-SM	Nos.	16					
9	8" Cable Ties (Packet of 100)	Nos.	4					
10	OFC markers	Nos.	26					
11	Cat 6 UTP Cable (Drum of 305 mtrs)	Nos.	5					
12	1" PVC pipe/conduit	meters	200					
	SERVICE TAX .....%							
	<b>SUB TOTAL (A)</b>							

*M. S. S. S.*





### **3.0 INSTRUCTIONS & GUIDELINES TO BIDDERS**

#### **4.1 TENDERER TO INFORM HIMSELF FULLY:**

The tenderer shall closely peruse all the clauses, specifications and requirements etc., indicated in the tender documents, before quoting. Should the tenderer have any doubt about the meaning of any portion of the tender specifications or find discrepancies or omissions in the specifications or if the tender documents are found to be incomplete or require clarifications on any of the technical aspects, scope of work etc., the tenderer shall at once contact the official inviting the tenders for clarifications before submission of the tender.

Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof.

#### **4.2 EXPECTATIONS FROM CONTRACTOR**

The contractor is required to give a total solution & services as per specifications enclosed. The full working of entire system is the responsibility of the contractor. In case any extra item is required for complete functioning of the system, the same must be quoted.

#### **4.3 SUBMISSION & OPENING OF BIDS**

The offer shall be submitted in Two parts as follows in separate sealed envelopes.

##### **PART-I : EMD & TECHNO-COMMERCIAL BID**

This part shall consist of the following:

- a. EMD of ₹ 40,000/-
- b. The tender document complete ( pages 1 to 13) with all formats filled in all respects with signature on each page.
- c. Technical offer shall contain complete technical information like brochures, catalogues, etc.
- d. Un-priced copy of price bid as per enclosed format only. Un-priced price bid shall include applicable tax rates.

##### **4.4 PART-II : PRICE BID**

- a) Price bid containing PRICES only is to be submitted (as per the enclosed Price Bid format provided). Prices shall be quoted in Indian Rupees only. Vendor has to give details of Duties and Taxes.

Price Bid should not contain any technical details and/or Commercial Terms & Conditions as the same are supposed to be contained in PART-I only so that the same can be evaluated before opening of Price Bid(s).



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**4.5 MARKING ON ENVELOPE:** Part-I and Part-II offers shall be submitted in two separate envelopes with bidder's distinctive SEAL and super-scribed as follows.

**PART – I:**

- 1. TENDER ENQUIRY NO AND ITEM DESCRIPTION**
- 2. DUE DATE OF OPENING**
- 3."TECHNO.COMMERCIAL BID"**

**PART-II:**

- 1. TENDER ENQUIRY NO AND ITEM DESCRIPTION**
- 2. DUE DATE OF OPENING**
- 3. "PRICE BID"**

**4.6** Tenders should be sent to the address specified in the first page. The full name and address of the tenderer, the name of the work and date of opening-should be indicated on the cover.

**4.7** In case tenders submitted by post or courier should be posted with due consideration for Any delay in delivery. Tenders submitted by post should be sent by "Registered Post with Acknowledgement Due".

**4.8 Late offer:** Offers received after due date and time will be treated as 'Late offer' and it will be rejected'

**4.9** In case of rejection due to (a) late offer (not considered by BHEL) or (b) commercial grounds or I technical grounds the sealed' price bids will be returned back to respective vendors after release of WO and receipt of order Acknowledgement from the successful bidder.

**4.10.** If in any case, the date of tender opening falls on holiday, the tender will be opened on the next working day.

**4.11.** BHEL reserves the right to accept or reject the technical offer. Price bids of only techno-commercially short listed vendors will be opened. The technical & commercial bid /Un-priced price bid should not include prices.

**4.12.** Tenderer shall not increase their quoted rates once the tenderer has submitted his quotation and during execution of the entire contract period in case his tender is accepted.

**4.13.** If after opening of tenders, a tenderer revokes his tender or increases his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the contract /order, the Earnest Money deposited by him will be forfeited and acceptance of his tender withdrawn. If only a part of the work included in the tender had been awarded to the tenderer, the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.

**4.14** Conditional and unsigned tenders. Tenders containing absurd rates and amounts, tenders which are incomplete or otherwise considered defective, tenders which are not in Accordance with the tender conditions and tenders not submitted in the prescribed forms are liable to be rejected.

**4.15.** If the tenderer deliberately gives wrong information in his tender, BHEL reserve the right to reject such tender at any stage. Further the tender will be liable for any damage caused.



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**4.16** Words imparting the singular number shall also be deemed to include the plural number and vice-versa where the context so requires.

**4.17** No correspondence shall be entertained from the bidders after the opening of Price Bid(s).

**4.18.** Unsolicited bids shall not be entertained. Unsolicited revised Price Bids also, shall not be Entertained at any stage of the tendering process and will lead to automatic Disqualification of the party's bid.

**4.19 RATES** :Rates to be quoted are net F.O.R. destination inclusive of freight, handling and packing charges, transit insurance, installation, regular insurance and on-site comprehensive maintenance including spares and deployment of service engineers during the entire contract period and shall remain FIRM without any variation till completion of the contract. However, the taxes and duties will be payable as per actuals.

**4.20 TENDER EVALUATION**:The determination of lowest bid will be based on cost to BHEL for the contract period.

**4.21 Order Acknowledgement** :Letter of acceptance of the Order / Contract is to be submitted within one week from the date of issue of order

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**BHARAT HEAVY ELECTRICALS LIMITED**

( ELECTRONIC SYSTEM DIVISION )

HOSUR ROAD BANGALORE – 560 100

**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 from 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.

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**ANNEXURE 'B'**

**CLAUSE 20 OF GENERAL CONDITIONS OF CONTRACT**

**LABOUR**

The Contractor shall employ labour in sufficient numbers either directly or through sub-contractors to maintain the required date of progress and of quality to ensure workmanship of the degree specified in the contract and to the satisfaction of the Engineer-in-charge. The contractor shall not employ in connection with the works any person who has not completed his eighteen years of age.

The Contractor shall furnish to the Engineer-in-charge at the intervals specified by him, a distribution return of the number and description by trades of the workpeople employed on the works. The Contractor shall also submit on the 4<sup>th</sup> and 19<sup>th</sup> or every month to the Engineer-in-charge a true statement showing in respect of the second half of the preceding month and the first half the current month ( i ) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them and ( ii ) the number of female workers who have been allowed maternity benefits as provided in the maternity benefit Act, 1961 or Rules made there under and the amount paid to them.

The Contractor shall pay to employees employed by him wages not less than



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minimum wages as defined in the Contractor's Labour Regulations/ Minimum Wages Act.

The Contractor shall in respect of labour employed by him either directly or through sub-contractors comply with or cause to be complied with contractor's labour Regulations in regard to all matters provided therein.

The Contractor shall comply with the provisions of the payment of wages Act, 1936, Minimum Wages Act, 1948, Workmen's Compensation Act 1923, Industrial Disputes Act, 1947, Maternity Benefit Act 1961, or any modifications thereof or any other law relating there to and rules made there under from time to time.

The Contractor shall be liable to pay his contribution and the employees contribution of the State Insurance Scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of "The Employees, State Insurance Act, 1948," as amended from time to time. The Contractor shall apply to the ESI Authorities, get himself registered with them and obtain a code Number. He shall pay the remittances towards PF under his Code Number only

The Engineer-in-charge shall on a report having been made by an Inspecting Officer as defined in the Contractor's Labor Regulations have the power to 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 benefit of workers, non-payment for wages or of deductions made from his or their wages which are not justified by the terms of the Contract of non observance of the said Contractor's Labour Regulations.

The Contractor shall indemnify the BHEL against any payment to be made under and for observance of the Regulations aforesaid without prejudice to his right to claim indemnity from these sub-contractors.

In the event of the Contractor committing a default or breach of any of the provisions of the aforesaid contractor's Labor Regulations, as amended from time to time or furnishing any information or submitting or filling any from /Register /Slip under the provisions of these Regulations which is materially incorrect then on the report of the Inspecting Officers as defined in the Contractors Labor Regulations, the Contractor shall without prejudice to any other liability pay to the BHEL a sum not exceeding Rs. 50/- as liquidated damages may be enhanced to Rs. 50/- per day for each day of default subject to a maximum percent of the estimated cost of works put to tender. The Contractor shall defend the case by himself any action brought in by such Government Agencies for non-compliance of any Labor Regulations and/or reimburse the expenses incurred by BHEL in this regard.



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The Engineer-in-charge shall deduct such amount from bills or security deposit of the Contractor and credit the same to the welfare fund constituted under Regulations. The decisions of the Engineer-in-charge in this respect shall be final and binding.

**MODEL RULES FOR LABOUR WELFARE**

The Contractor shall at his own expense comply with or cause to be complied with model Rules for labor Welfare as appended to these conditions or rules framed by 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-in-charge shall be entitled do so and recover the cost thereof from the contractor.

**BHARAT HEAVY ELECTRICALS LIMITED**  
**( ELECTRONIC SYSTEM DIVISION )**

HOSUR ROAD BANGALORE – 560 100

**SAFETY CODE**

**RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF**

**SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT**

1. Before commencing the work, contractor submit 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 contractor 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:-
  - ( I ) Safety Helmets conforming to IS – 2925: 1984.
  - (ii ) Safety Belts conforming to IS – 3521: 1983.



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- (iii) Safety Shoes conforming to IS – 1989: 1978.
- (iv) Eye and Face Protection devices conforming to IS – 8520: 1977  
and IS – 8940: 1978.
- (v) 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, equipments etc. used by the contractor shall be of safe design and construction. These 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, connections and wiring for constructions power, its Distribution and use shall conform to the requirement of India 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 spaces, lighting shall be arranged with power source 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 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, Petroleum and Carbides of Calcium manual of the chief controller of Explosives, Govt. of India. etc., Prior



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approval of 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 enrage safety of men, equipment, material and environment in his scope of work or another contractor's or agency's. 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.

In case of a fatal or disabling injury accident to any person at construction sites due to 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 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 due to lapses by the contractor, BHEL shall have the right to recover cost of such damages 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 right to recover cost of such delay from payments due to the contractor, after notifying the contractor 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; provide necessary safety devices and equipment or to carry out instructions 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 the contractor to the authorized BHEL official from time to time as prescribed.



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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 of the job.

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**ANNEXURE: 'C'**

**CLAUSE 38 OF BHEL GENERAL CONDITIONS OF CONTRACT**

**INSURANCE OF WORKS AGAINST DAMAGE AND LOSS DUE TO FIRE, STRIKE  
TEMPEST, FLOODS, EARTHQUAKE, RIOT AND AGAINST DAMAGE BY AIRCRAFT**

The contractor shall, within one month date of acceptance of the contract, insure the work against loss and damage by fire, tempest, floods, earthquake, riots, strike and against damage by aircraft with an insurance office approved by the accepting officer from the date of acceptance of work or actual commencement of work which ever is earlier. Such insurance shall be effected in the name of BHEL and shall be for the full value of the contract sum. The contractor shall lodge with the BHEL the policies and receipts of the premiums for such insurance and shall maintain such policies in force until the entire completion of the work as certified by the senior Engineer.

If the contractor fails to comply with the terms of this condition the accepting officer may insure the work and may deduct the amount of premiums from any money that may become payable to the contractor or may at his discretion refuse payment of any advance to the contractor until the contractor shall have complied with the terms of this condition.

Such insurance whether effected by the Accepting officer or the Contractor shall not be a limit or bar to the liability and colligation of the contractor to complete the entire work in all respects as certified by the Senior Engineer.

In case of such a loss or damage as aforesaid, the money payable under any such insurance shall be received and may be retained by the B.H.E.L. until the work is finally completed and shall then be credited to the contractor in the final statement

*M. S. Jacob*



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of accounts in the event of the contract not having been previously cancelled under these conditions after taking into account the delay in completion, settlement to his workers for damages, damage to BHEL. Property etc.,

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**ANNEXURE 'D'**

**CLAUSE 58 OF GENERAL CONDITIONS OF CONTRACT**

**ARBITRATION:**

Except where otherwise provide for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein. Before mentioned and as to any other question, claim, right, matter or thing whatever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Executive Director/General Manager of BHEL and if the Executive Director/General Manager willing to act as such Arbitrator. There will be no unwilling to act to the sole Arbitrator so appointed is an employer of BHEL to which the contract relates and that in the course of his duties as such he had expressed views on all or any of the matters in dispute or difference. The Arbitration to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, such Executive Director/General Manager as aforesaid at the time of such transfer vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by such Executive Director/General Manager or an employee appointed as arbitrator shall give reasons for the award.

*M. S. Jais*



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Subject as aforesaid the provision of the Arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is term of the contract that the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under clause together with the amount or amounts claimed in respect of each such dispute.

The arbitrator (s) may from to time with consent of the parties extend the time, for making and publishing the award.

The work under the contract shall, if reasonably possible, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties fixing the date of the first hearing.

The arbitrator shall give a separate speaking award in respect of each or difference referred to him.

The venue of arbitration shall be such place as may be fixed by the arbitrator in his sole discretion.

The award of the arbitrator shall be final, conclusive and binding on all parties to this contract

*Handwritten signature*



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**ANNEXURE: 'E'**

**HEALTH, SAFETY & ENVIRONMENTAL POLICY**

The Management is committed to be an environmentally sound company in its activities, products, services and to provide safe and healthy working environment covering its employees ,contractors, Contract labourers, trainees, suppliers, and all interested parties as an integral part of business performance through :

- Compliance with applicable legal and other requirements related to occupational Health, Safety and Environment.
- Setting objectives and targets to eliminate / control / minimize environmental pollution, risks due to Occupational Health and Safety Hazards for preventing injury & ill health and reviewing the objectives and targets to have continual improvement in HSE performance.
- Promotion of activities for conservation of resources by environmental Management with focus on electrical energy and chemicals.
- Communication of HSE Policy to employees, customers, suppliers, contractors and all interested parties and enhancement of Environmental, Occupational Health and Safety Management Systems by pro-active measures.
- Commitment for regular evaluation and pro-active measures for prevention & control of environmental pollution / risks due to incidents & occupational diseases.
- Appropriate training of employees, customers, suppliers, contractors and all interested parties on Health, Safety and Environmental (HSE) aspects.
- Formulation and maintenance of HSE Management programs for continual improvement.
- Periodic review & audit of HSE management Systems to ensure its continuing suitability, adequacy and effectiveness.
- Co-operation with concerned agencies /regulatory bodies engaged in HSE activities.

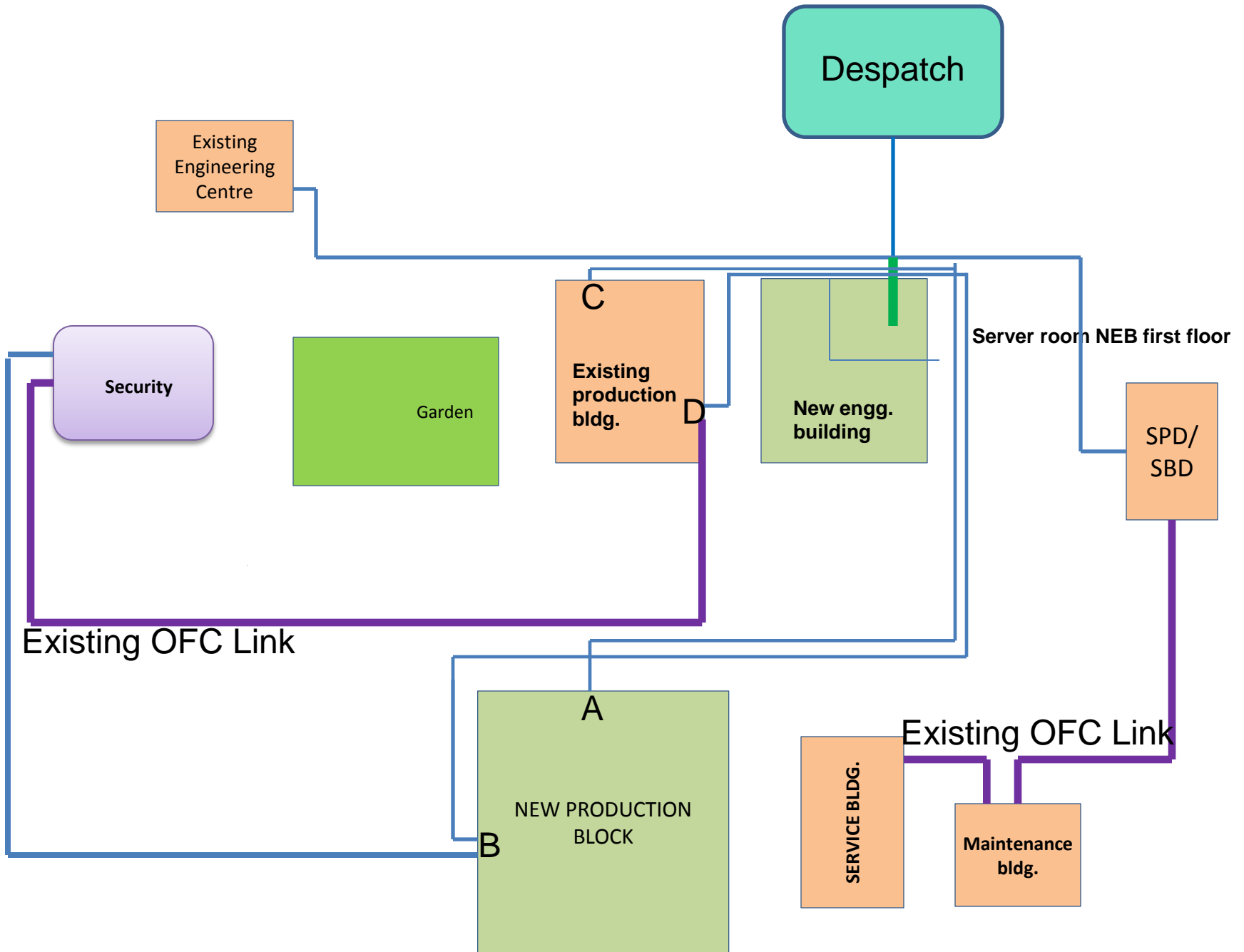
Sd.

**K C Ramamurthy**  
**EXECUTIVE DIRECTOR**

**BHEL ( EDN ) , BANGALORE**

*M. S. S. S.*

# ESD LAYOUT FOR OFC



S/No.	Source location	Destination Location	Approx. length of OFC
1	New engg Building	SPD/SBD building	200m
2	New engg Building	New Production building (A)	200m
3	New engg Building	New Production building (B)	300m
4	New engg Building	Existing Engg building	160m
5	New engg Building	Despatch building	60m
6	New engg Building	Existing Production building (C )	100m
7	New engg Building	Existing Production building (D )	100m
8	Security building	New Production building (B)	200m