



BRAHMAPUTRA CRACKER AND POLYMER LIMITED
[A Government of India Enterprise]

BID DOCUMENT No.: BCPL/DIB/C&P/SER/20140122/MKB

Date: 06/08/2014

To,

Implementation of SAP & Set-up of IT Infrastructure & Construction of Data center along with AMC for the period of 03 years for BCPL

OPEN DOMESTIC COMPETITIVE BIDDING

Prepared & Issued By
OFFICE OF THE DY. GENERAL MANAGER (C&P)
M/s. Brahma Putra Cracker & Polymer Ltd.
“Administrative Building”, Lepetkata,
BCPL-Project Site, P.O. Lepetkata
Dibrugarh, PIN – 786006 (Assam)
Tel#+91-373-2914609

For Brahma Putra Cracker and Polymer Limited,
(A Government of India Enterprise)

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Project Execution office: 3rdFloor, GTI; 24, Sector-16A; NOIDA–201 301: Tel: 0120-2513102, 011-26185941(Fax)

Implementation of SAP & Set-up of IT Infrastructure & Construction of Data center along with AMC for the period of 03 years for BCPL

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Notice Inviting Tender (NIT)

Dear Sir(s),

Brahmaputra Cracker & Polymer Ltd., stands for BCPL Dibrugarh here-in-after called OWNER/COMPANY/BCPL invites you to submit your bids under TWO BID system towards **Implementation of SAP & Set-up of IT Infrastructure & Construction of Data center along with AMC for the period of 03 years for BCPL**, as detailed below in complete accordance with enclosed tender document:

1) **Salient features of bid document:**

1.2.1	Type of Enquiry, Mode of bid submission	Open Domestic Tender (Bid to be sent by post / courier or hand delivered).
1.2.2	Earnest Money Deposit / Bid Security (Refundable)	Rs. 22, 60,000/- (Rupees twenty two lakh sixty thousand only)
1.2.3	Bid Document No.:	BCPL/DIB/C&P/SER/20140122/MKB
1.2.4	BIDDING DOCUMENT FEE (NON REFUNDABLE)	Rs. 5,000/- (in favour of “Brahmaputra Cracker & Polymer Ltd.”, payable at Dibrugarh (Assam) However, PSUs are exempted from payment of tender fee.
1.2.5	Period of Contract	Period of Contract as per Special Conditions of Contract (SCC) Part-B.
1.2.6	Pre-Bid Meeting	20.08.2014 (if the particular day is a HOLIDAY at BCPL, Lepetkata the Pre-Bid will commence on next working day)
1.2.7	Last date and time for Submission of bid	09.09.2014 up to 14.30 hrs (IST)
1.2.8	Date and time for opening of un –priced bid at BCPL, Lepetkata	09.09.2014 on 15.00 hrs (if the particular day is a HOLIDAY at BCPL, Lepetkata the un-priced bids shall be opened on next working days).
1.2.9	Place of submission of bid	OFFICE OF THE DY. GENERAL MANAGER (C&P) BRAHMAPUTRA CRACKER & POLYMER LIMITED, ADMINISTRATIVE BUILDING , C&P DEPARTMENT P.O. – BARBARUAH LEPETKATA, DIBRUGARH-786006, ASSAM
1.2.10	Venue for Opening of Un-priced bids	OFFICE OF THE DY. GENERAL MANAGER (C&P) BRAHMAPUTRA CRACKER & POLYMER LIMITED, ADMINISTRATIVE BUILDING , C&P DEPARTMENT P.O. – BARBARUAH LEPETKATA, DIBRUGARH-786006, ASSAM
1.2.11	Contact Person	Manish Kumar Binjola, Sr. Officer (C&P) E-mail: mkbinjola@bcplindia.co.in Ph. No. +91-373-2914609

The complete bidding document is also available on the website of GAIL (www.gailtenders.in) and BCPL (www.bcplonline.co.in) & CPP Portal, bidders and desirous to submit their bid on the basis of downloaded document shall pay cost of bidding document (Tender Fee) by crossed demand draft in favour of **Brahmaputra Cracker & Polymer Limited, payable at Dibrugarh (Assam)** along with the

Techno-Commercial Bid, failing which their bid shall not be considered for opening/evaluation. **Bids are also available for sale at the office of DGM, C&P department as per the date mentioned above.** The bid will be submitted in 02 (two) parts as follows:

PART –I: Un-Priced Bids (Techno-Commercial Bids)

The un-priced bid must be complete with all technical and commercial details other than rate UN-PRICED OFFER in duplicate (ORIGINAL + ONE COPY) complete with all technical and commercial details & the Schedule of Rate (SOR) **with prices blanked out and copy of tender.** Earnest Money Deposit as specified.

EARNEST MONEY DEPOSIT: Rs. 22, 60,000/-

The Earnest Money Deposit (EMD) for the amount as mentioned above shall be submitted in the form of Crossed Bank Demand Draft / Banker's Cheque drawn on any Nationalized / Scheduled bank in favour of Brahmaputra Cracker & Polymer Ltd., payable at Dibrugarh, Assam. *Small Scale Industries registered with NSIC under its Single Point Registration Scheme shall be exempted from submission of EMD/Bid bond provided they are registered for the items they intend to quote against BCPL tender. Micro and Small Enterprise shall be exempted from submission of EMD/Bid Bond.

Format of Bank Guarantee towards EMD is enclosed with tender.

Part –II: Priced Bid: It should contain only price schedule with rates filled in and no terms & conditions should be put in priced bid. PRICED OFFER in duplicate (ORIGINAL + ONE COPY) WITH COMPLETE PRICE DETAILS as per price schedule provided in the tender

The two envelopes containing Part-I AND Part-II should be enclosed in a larger envelope duly sealed and superscribed prominently with tender no., due date and item along-with address of this office and sender's name and address.

Bids complete in all respect must reach this office not later than 14.30 hrs on the notified date of closing of the tender.

Bids complete in all respects should be submitted on or before last date and time of Bid submission.

If the last date happens to be a Holiday/Sunday, the next working day will be considered as bid due date. Bids sent through Fax or E-mail or in any other mode other than what is described in the tender document, will not be accepted.

BIDDERS ELIGIBILITY CRITERIA/ BID EVALUATION CRITERIA:

Technical Criteria:

- (1) The bidder should be an OEM or authorized representative of OEMs of offered Servers, Storage, E-mail and Virtualization Software. Bidder shall submit authorization letter from OEMs of all the above items, referring this tender number.
- (2) The bidder should have successfully Supplied, Installed & Commissioned IT Project which includes Servers and Storage (Excluding equipment like PCs, peripherals etc.) against a Single Order of minimum value of Rs. 10 Crores during last seven (07) years reckoned from the due date of submission of bid. The orders as well as Completion / Execution date should be within last 7 years from the due date of submission of bid. Bidder must submit copies of relevant work order and its completion certificate issued by the end user in support of meeting the above experience. Copy of completion certificate must indicate reference no. of work order/date, actual date of completion and actual executed value of the order.

In case the above order is still under warranty / maintenance but commissioning of systems has been completed, certificate from clients indicating date of system commissioning to be furnished in

addition to order copy. However, the executed value should be equal to or more than the value indicated above.

- (3) The bidder should have successfully executed at least one End-to-End SAP ECC 6.0 implementation involving FICO, MM, SD, QM, HR and India Payroll in India in a single or maximum two orders. The orders as well as completion date should be within last 7 years from the due date of submission of bid. Bidder must submit copies of relevant work order and its completion certificate issued by the end user in support of meeting the above experience. Copy of completion certificate must indicate reference no. of work order, work order date, actual date of completion and actual executed value of the order.

In case the above order is still under support but Go-live has happened, certificate from clients indicating Go-live date of respective modules to be furnished in addition to order copy.

- (4) Bidder should be SAP authorized global / India Service Partner as on date of submission of bid. Valid Certificate from SAP to be furnished.
- (5) Bidder should have resource base of at least 500 SAP consultants in India. The certificate from authorized HR Personnel / Head of the company to be furnished.
- (6) Bidder should be SEI CMMI Level 5 certified company. SEI CMMI certificate, valid on the date of submission of bid, to be furnished.

Bidder may provide same / different order(s) in compliance to clause (2) & (3) above.

- *All documents in support of **Technical Criteria** of Bid Evaluation Criteria (BEC) to be furnished by the bidders shall necessary be duly certified/attested by **Chartered Engineer** and **notary public** with legible stamp.*

NOTE:

- a. The experience criteria of those bidders (who have worked as sub-contractors) may be considered as meeting the above BEC subject to their submitting the Copy of work order along with SOR issued by main contractor and Copies of completion certificates from the end user / owner and also from the main contractor. The completion certificate shall have details like work order no. /date, brief scope of work, ordered and executed value of the job, completion date etc.
- b. A Job executed by a bidder for its own plant/projects cannot be considered as experience for the purpose of meeting BEC of the tender. However, jobs executed for Subsidiary/Fellow subsidiary / Holding company will be considered as experience for the purpose of meeting BEC subject to submission of tax paid invoice (s) duly certified by Statutory Auditor of the bidder towards payments of statutory tax in support of the job executed for Subsidiary/Fellow subsidiary/ Holding company. Such bidders to submit these documents in addition to the documents specified to meet BEC.
- c. Bids of Joint Venture/ Consortium not acceptable.

The cut-off date for meeting the technical criteria of BEC of the tender shall be the due date for submission of bids.

Financial Criteria:

- 1) The bidder must have a minimum annual turnover of Rs 10 Cr. in any of the 03 (three) Preceding audited financial years. The preceding three years covers the FY 2011-12, 2012-13 & 2013-14. In

case the audited financial report of 2013-14 is not available, the bidder has an option to submit the audited financial reports for FY 2010-11, 2011-12 & 2012-13.

- 2) Bidder shall have minimum working capital of Rs 2.20 Cr. as per the last audited financial year. In case the audited financial report of 2013-14 is not available, the bidder has an option to submit the audited financial report of 2012-13. If the bidder's working capital is inadequate, the bidder shall supplement this with a letter issued by their Banker having net worth not less than 100 Crore or US \$ 22million, conforming the availability of line of credit to meet the above specified working capital requirement.
- 3) The Financial Net Worth of the Bidder should be positive as per the last Audited Financial Statement. In case the audited financial report of 2013-14 is not available, the bidder has an option to submit the audited financial report of 2012-13.
- 4) Bidders should submit attested copy(s) of audited Balance Sheet, Profit & Loss Account towards meeting the above financial criteria along with their un-priced bid.
 - *Bidder shall submit details of Financial Capability of bidder in the prescribed format (Annexure-Z) duly signed & stamped by **Chartered accountant**.*
 - *Further, copy of full audited annual financial statements submitted in bid shall be duly certified /attested by **notary public** with legible stamp.*
 - *For submission of audited annual reports including audited balance sheet, profit & loss account etc., the preceding three years covers the FY 2011-12, 2012-13 & 2013-14. In case the audited financial report of 2013-14 is not available, the bidder has an option to submit the audited financial reports for FY 2010-11, 2011-12 & 2012-13.*

SUBMISSION OF ATTESTED COPIES OF CERTIFICATES / DOCUMENTARY EVIDENCES

- **Attested copies of all the relevant documents viz. Work Order(s), Execution/completion Certificate(s), Annual Report / Balance Sheet and Profit & Loss Account and other documents as mentioned in BEC.**
- **Attested copy (ies) of partnership deed (in case of partnership firm) and power of attorney.**
- **Attested copy of P. F. certificate.**
- **Attested copy of sales tax registration certificate**
- **Attested copy of service tax registration certificate**
- **Attested copy of PAN Card.**
- **Affidavit (on non-judicial stamp paper) duly notarized, as per clause no. 38.2 of Special conditions of Contract Part–A.**
- **Attested copies of all the relevant documents in support of SSI, MSE unit.**

Non-submission of the attested copies of the requisite certificates/documents shall render the bid non-responsive and shall be liable for rejection

If a bidder furnishes foreign Work Order for compliance of BEC, date of Work Order shall be considered for exchange rate and the bidder shall provide the value in INR accordingly.

An undertaking (by the bidders who quotes by down loading the tender from web site) stating that "The contents of the Tender Document have not been modified or altered by M/s (Name of the bidder with complete address) In case, it is found that the tender document has been modified / altered by the bidder, the bid submitted by the M/s (Name of the bidder) shall be liable for rejection.

2) **TECHNICAL SPECIFICATION :**

Refer SPECIAL CONDITION OF CONTRACT –SECTION III of tender document.

3) **SERVICE TAX: -**

Refer Preamble to SOR.

4) **PUBLIC PROCUREMENT POLICY (PPP), 2012**

Bid submitted by MSEs shall be processed as under subject to availability of the item(s) in the notified Gazette published by Government of India from time to time:

- i) In Tender, participating Micro and Small Enterprises quoting price within price band of L1+15% shall also be allowed to supply a portion of requirement by bringing down their prices to L-1 price in a situation where L-1 price is from someone other than a micro small enterprises and such micro and small enterprises shall be allowed to supply up to 20% of the total tendered value. In case of more than one such Micro and small Enterprises, the supply shall be shared proportionately (to tendered quantity). Further, out of above 20%, 4% (20%of 20%) shall be from MSEs owned by SC/ST entrepreneurs. This quota is to be transferred to other MSEs in case non-availability of MSEs owned by SC/ST entrepreneurs.
- ii) The quoted prices against various items shall valid in case of splitting of quantities of the items as above.
- iii) In case bidder is a Micro or Small Enterprise under Micro, Small and Medium Enterprises Development Act, 2006, the bidder shall submit the following:
 - a) Documentary evidence that the bidder is a Micro or Small Enterprises registered with District Industries Centers or Khadi and village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises.
 - b) If the MSE is owned by SC/ST Entrepreneurs, the bidder shall furnish appropriate documentary evidence in this regards.

The above documents submitted by the bidder shall be duly certified by the Statutory Auditor of the bidder or a practicing Chartered Accountant (not being an employee or a Director or not having any interest in the bidder's company/firm) where audited accounts are not mandatory as per law.

If the bidder does not provide the above confirmation or appropriate document or any evidence, then it will be presumed that they do not qualify for any preference admissible in the Public Procurement Policy (PPP), 2012.

In case of MSEs, Tender fees & EMD/Bid Security is not applicable.

5) **PRE-BID MEETING:**

- a) The Bidder(s) or his official representatives are invited to attend a pre-bid meeting on date, time and venue specified above.
- b) The bidder is requested to submit their queries /clarifications in the Format F7of SECTION IIB of tender document through e-mail/ courier so as to reach BCPL at least one week before the Pre-bid meeting. These questions shall be replied during the Pre-bid meeting.
- c) Non-attendance of the pre-bid meeting will not be a cause for disqualification of a bidder.
If the last date happens to be a Holiday/Sunday, the next working day will be considered as for pre-bid meeting.

6) **PRICE BASIS:**

FOT site basis.

Primary Site: BCPL-Lepetkata, Dibrugarh, Assam.

Data Recovery Site: GAIL (India) Limited,
B-25 & 36, Sector – I, Noida, Uttar Pradesh

7) **CONTRACT SCHEDULE:**

As per SCC part - B

8) **VALIDITY PERIOD OF OFFER:**

As per SCC part - B

9) **VAT / CST No:**

Bidder need to indicate valid sales tax registration no. in the quotation.

10) **SECURITY DEPOSIT:**

Items No.	Security Deposit Value	Description	BG Start Date	BG Validity
SP -01(Part A,B,C,D), SP – 02 (Part E) and Part G	10 % of the quoted amount (excluding taxes and duties)	Supply and installation of all H/w and S/w including Data center	Starting of contract	48+3 months
Part – F	10 % of the quoted amount (excluding taxes and duties)	SAP Implementation	Starting of contract	18+3 months
SP - 04	7.5 % of one year quoted value (excluding taxes and duties)	System Support Services & Facility Management	Starting of Warranty / Support period	36+3 months

Above mentioned Security Deposit to be submitted either in the form of BG or DD within 15 days of receipt of LOA/ LOI . Format of Bank Guarantee towards security deposit as performance bank guarantee is enclosed with tender. In case of BG, the validity period of BG should be beyond 03 months from date of expiry of warranty period. (To be read in conjunction with GCC- Clause No. 24)

Micro and Small Enterprise shall not be exempted from submission of Security Deposit.

11) **FIXED PRICE:**

Prices quoted by the bidder shall be firm & fixed during the bidder's performance of the contract. A bid submitted with an adjustable price quotation will be treated as non responsive and rejected.

12) **OWNER'S RIGHT TO VARY QUANTITIES AT THE TIME OF AWARD:**

The OWNER reserves the right at the time of award of contract to increase or decrease the quantity specified in the scope (in respect of each item of scope), without any change in unit price and other terms & conditions.

13) **ORDER OF PRECEDENCE:**

In case of an irreconcilable conflict between Instruction to Bidders, Special conditions of contracts & General conditions of contracts the following shall prevail to the extent of such irreconcilable conflict in the order of precedence:

- i) Preamble to SOR and Schedule of Rates (SOR)
- ii) RFQ Covering Letter
- iii) Instruction to Bidders
- iv) Special conditions of contracts (Part B)
- v) Special conditions of contracts (Part A)
- vi) General Conditions of Contract

- 14) All the bidders including those who are not willing to submit their bid against in this tender, are required to submit format F-11 “Acknowledgement Cum Consent Letter” attached in the tender alongwith reason(s) for non-participation in the failing, if applicable within 7 days from receipt of tender information, **failing which BCPL may not issue any tender to such bidder in future.**

Please note that this is a zero deviation tender. Bidders are advised to strictly confirm compliance to tender conditions and not to stipulate any deviation / conditions in their offer. Subsequent to bid submission, BCPL will not seek confirmations / clarifications and any bid(s) not in line with tender conditions shall be liable for rejection. Bidders are also requested to submit the documents / confirmations strictly as per the check list enclosed in the tender document.

GENERAL

- No extension in the bid due date/time shall be considered on account of delay in receipt of any document
- Bid document is non –transferable.
- BCPL reserves the right to carry out capability assessment of the bidder including referral to in-house information.
- BCPL will not be responsible or liable for cost incurred in preparation & delivery of bids, regardless of the conduct or conduct or outcome of the bidding process.
- Bids received after stipulated last date and time, due to any reasons what-so-ever, including postal delays, will not be considered.
- BCPL reserve the right to reject any or all the bids received at its discretion without assigning any reason whatsoever.
- Bidder should not be under liquidation, court receivership or similar proceedings.
- Bidders should not be black listed with any PSU /Govt. establishment.
- Bid sent through other than Courier/post/personal delivery shall not be accepted.

Consignee Address:

Office of the Dy. General Manager (C&P)
Administrative Building, Brahmaputra Cracker and Polymer Limited,
PO: Lepetkata, District – Dibrugarh, Assam, India PIN – 786006
Tel-0373-2914609

If you require any further information, feel free to contact us.

Yours faithfully,

**For Brahmaputra Cracker and Polymer Limited,
(A Government of India Enterprise)**

**Manish Kumar Binjola
Sr. Officer (Contracts & Procurement)
E-Mail: mkbinjola@bcplindia.co.in
Ph no: 0373-2914609**

FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER

We have verified the Annual Accounts and other relevant records of M/s..... (Name of the bidder) and certify the following

A. ANNUAL TURNOVER OF LAST 3 YEARS:

YEAR	AMOUNT(CURRENCY)
Year1:	
Year2:	
Year3:	

B. FINANCIAL DATA FOR LAST AUDITED FINANCIAL YEAR:

DESCRIPTION	YEAR
	AMOUNT(CURRENCY)
1.Current Assets	
2.Current Liabilities	
3.Working Capital (Current Assets-Current liabilities)	
4.Net Worth (Paid up share capital and free reserves & Surplus)	

Name of Audit Firm:
Chartered Accountant
Date

[Signature of Authorized Signatory]
Name:
Designation:
Seal:
Membership no.

Instructions:

1. The financial year would be the same as one normally followed by the bidder for its Annual Report.
2. The bidder shall provide the Audited annual financial statements as required for this Tender document. Failure to do so would result in the Proposal being considered as non responsive.
3. For the purpose of this Tender document .(i)Annual Turnover shall be “sale value/Operating Income “(ii)Working Capital shall be “Current Assets less Current liabilities “ and (iii) Net Worth shall be “Paid up share capital and Free Reserves & Surplus”

CUT-OUT SLIP

(Quotation – Do Not Open)

Bid Document no.: BCPL/DIB/C&P/SER/20140122/MKB

Implementation of SAP & Set-up of IT Infrastructure & Construction of Data center along with AMC for the period of three (03) years for BCPL

Due Date & Time of bid submission: Up-to 14.30 hrs (IST) on 09.09.2014

Date and time for opening of bids: 15.00 hrs (IST) on 09.09.2014

From:

To:

	OFFICE OF THE DY. GENERAL MANAGER(C&P) M/S. BRAHMAPUTRA CRACKER & POLYMER LIMITED (BCPL), LEPETKATA ADMINISTRATIVE BUILDING , BCPL-PROJECT SITE, P.O. LEPETKATA DIST: DIBRUGARH, PIN – 786006 ASSAM PH NO.:0373-2914609
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(To be pasted on the outer envelope containing envelopes Part –I, Part-II)

CUT-OUT SLIP

(Quotation – Do Not Open)

Bid Document no.: BCPL/DIB/C&P/SER/20140122/MKB

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to:

	OFFICE OF THE DY. GENERAL MANAGER(C&P) M/S. BRAHMAPUTRA CRACKER & POLYMER LIMITED (BCPL), LEPETKATA ADMINISTRATIVE BUILDING ,, BCPL-PROJECT SITE, P.O. LEPETKATA DIST: DIBRUGARH, PIN – 786006 ASSAM PH NO.:0373-2914609
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(To be pasted on the outer envelope containing envelopes Part –I)

CUT-OUT SLIP

(Quotation – Do Not Open)

Bid Document no.: BCPL/DIB/C&P/SER/20140112/MKB

Implementation of SAP & Set-up of IT Infrastructure & Construction of Data center along with AMC for the period of three (03) years for BCPL

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Date and time for opening of bids: 15.00 hrs (IST) on 09.09.2014

From:

to:

	OFFICE OF THE DY. GENERAL MANAGER(C&P) M/S. BRAHMAPUTRA CRACKER & POLYMER LIMITED (BCPL), LEPETKATA ADMINISTRATIVE BUILDING ,, BCPL-PROJECT SITE, P.O. LEPETKATA DIST: DIBRUGARH, PIN – 786006 ASSAM PH NO.:0373-2914609
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(To be pasted on the outer envelope containing envelopes Part-II)

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A. General

1. Scope of Bid

1.1 The Employer, as defined in the General Conditions of Contract, hereinafter "the Employer", Bid wishes to receive bids for the Services as described in Section III, Special Conditions of Contract, hereinafter referred to as "the Services".

1.2 The successful bidder will be expected to complete the Works within the period stated in Special Conditions of Contract.

1.3 Throughout these bidding documents, the terms "bid" and "tender" and their derivatives ("bidder/tenderer", "bid/ tendered", "bidding/tendering", etc.) are synonymous, and day means calendar day. Singular also means plural.

2. Eligible Bidders

2.1 This invitation for bid is open to any bidder.

2.2 A bidder shall not be affiliated with a firm or entity

(i) that has provided consulting services related to the Works to the Employer during the preparatory stages of the Works or of the Project of which the Works form a part, or

(ii) that has been hired (or is proposed to be hired) by the Employer as Engineer/Consultant for the contract.

2.3 The bidder shall not be under a declaration of ineligibility by Employer for corrupt or fraudulent practices as defined in ITB.

2.4 The bidder is not put on holiday by BCPL, GAIL or black listed by any Government Department /Public Sector.

3. Bid Evaluation Criteria

As mentioned in RFQ covering letter of tender document.

4. One Bid per participates

4.1 A firm shall submit only one bid in the same bidding process. A bidder who submits or participate in more than one bid will cause all the proposals in which the bidder has Bidder participated to be disqualified.

5. Cost of Bidding

5.1 The bidder shall bear all costs associated with the preparation and submission of the bid, and PURCHASER (BCPL), will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

6. Site Visit

6.1 The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.

6.2 The bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the

bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

6.3 The Employer may conduct a Site visit concurrently with the pre-bid meeting.

7. Service Tax

Please Refer Preamble to SOR

7.1. Abnormally High Rates (AHR)

In items rate contract where the quoted rates for the items exceed 50% of the owners/estimated Items rates, such items will be considered as Abnormally High Rates Items (AHR) and Payment of AHR items beyond the SOR stipulated quantities shall be made at the least of the following rates:

(I) Rates as per SOR, quoted by the contractor.

(II) Rate of the item, which shall be derived as follows:

Based on rates of machine and labor as available from the contract (which includes contractor's supervision, profit, overheads and other expenses).

In case rates are not available in the contract, rates will be calculated based on prevailing market rates of machine, material and labor plus 15% to cover contractor's supervision profit, overhead & other expenses.

7.2. Income Tax deduction shall be made from all payments of the contractor as per rules and Tax regulation in force in accordance with the Income Tax Act prevailing from time to time.

7.3. Road Permit:

For issue of Road Permit Seller shall inform BCPL with details:

Proforma Invoice with following details are also required to get Road Permit

- (i) Place of despatch
- (ii) Date of despatch
- (iii) Quantity and Description of material
- (iv) Value of material
- (v) Expected date of delivery at site
- (vi) CST, Excise duty
- (vii) Freight
- (viii) Other taxes if any for each despatch

B. BIDDING DOCUMENTS

8. Content of Bidding Document

8.1 The bidding documents are those stated below and should be read in conjunction with any addenda issued in accordance with ITB Clause 10.

Section I. Request for quotation (RFQ)

Section II. Instructions to Bidders (ITB)

Section III. Special Conditions of Contract, Scope of Work

Section IV. General Conditions of Contract and

Section V. Schedule of Rates (SOR)

8.2 The bidder is expected to examine all instructions, forms, terms and specifications in the bidding documents. The Request for quotation (RFQ) together with all its attachments thereto, shall be considered to be read, understood and accepted by the bidders. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at bidder's risk and may result in the rejection of his bid.

9. Clarification of Bidding Document

9.1 A prospective bidder requiring any clarification of the Bidding Documents may Bidding notify BCPL in writing or by fax or e-mail at BCPL's mailing address indicated in the Invitation for Bids. BCPL will respond in writing to any request for clarification of the Bidding documents which it receives not later than 10 days prior to the deadline for the submission of bids prescribed by BCPL. Written copies of BCPL's response (including an explanation of the query but without identifying the source of the query) will be sent to all prospective bidders who have received the bidding documents. Any Clarification or information required by the bidder but same not received by the Employer, ten days prior to the bid due date, the same is liable to be considered as no clarification/information required.

10. Amendment of Bidding Document

10.1 At any time prior to the bid due date, BCPL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents.

10.2 The amendment will be notified to all prospective bidders through proper medium and will be binding on them.

10.3 In order to afford prospective bidders, reasonable time in which to take the amendment into account in preparing their bids, BCPL may, at its discretion, extend the bid due date.

C. PREPARATION OF BIDS

11. Language of Bid

II. I The bid prepared by the bidder and all correspondence/drawings and documents relating to the bid exchanged by bidder and BCPL shall be written in English language. Any printed literature furnished by the bidder may be written in another language so long as accompanied by an ENGLISH translation duly authenticated by the chamber of commerce of Bidders country, in which case, for the purpose of interpretation of the bid, the ENGLISH.

12. Documents Comprising the Bid

(a) The bid prepared by the bidder shall comprise the following components:

(b) Envelope -I: Super scribing Techno-Commercial Un priced Bids (PART-I)

Part-I: Techno-commercial/Un-priced Bid and shall contain the following:

EMD / BID BOND as specified

TENDER FEE

i) Covering Letter as per format "Submission of tender" enclosed with GCC

ii) A confirmation that prices in requisite formats, strictly complying with the requirement, are in envelope number II "Price Bid".

iii) Agreed Terms & Conditions duly filled-in at F-13.

iv) Organization details:

(a) In case of a proprietorship firm, the name and address of proprietor, and certified copy of 'Certificate of registration of firm'.

(b) In case Bidder is a partnership firm, certified copy of the partnership deed.

(c.) In case of company (whether private or public), certified copy of the 'Certificate of Incorporation' together with certified Memorandum / articles of Association

v) All formats mentioned in Section: IIB

Any other information/details required as per bid document.

Note: All pages of the bid to be signed and sealed by authorized person of the bidder.

12.1 Envelope II: Super scribing "Price Bid- Not to Open with Techno- Commercial Un priced Bid" - PART-II

Part-II price Bid

(i) Part-II shall contain one original and One copy of Schedule of Rates duly filled in, in separate sealed envelopes duly signed and stamped on each page super scribing on the sealed envelope "Price - Do Not Open". In case of any correction, the bidders shall put his signature and his stamp.

13. Bid Prices

13.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole works as described in Bidding Document, based on the unit rates and prices submitted by the Bidder and accepted by the EMPLOYER.

13.2 Prices must be filled in format for 'Schedule of Rates' enclosed as part Bidding Document. If quoted in separate typed sheets and any variation in description, unit or quantity is noticed; the bid is liable to be rejected.

13.3 Bidder shall quote for all the items of Schedule of Rates after careful analysis of cost involved for the performance of the completed item considering all parts of the Bidding Document. In case any activity though specifically not covered in description of item under 'Schedule of Rates' but is required to complete the works as per Scope of Work, Scope of supply, Specifications, Standards, Drawings, General Conditions of Contract, Special Condition of Contract or any other part of Bidding Document, the prices quoted shall deemed to be inclusive of cost incurred for such activity. Items against which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the SOR.

13.4 All duties and taxes including, excluding Service tax payable by the Contractor under the Contract, or for any other cause, shall. Be included in the rates and prices and the total bid price submitted by the bidder.

13.5 Prices quoted by the bidder, shall remain firm and fixed and valid until completion of the Contract and will not be subject to variation on any account.

13.6 The Bidder shall quote the prices both in figures as well as in words. There should not be any discrepancies between the price indicated in figures and the price indicated in words.

13.7 Alternative bids shall not be considered.

13.8 Bidders are advised NOT to mention Rebate/Discount separately, either in the SOR format or anywhere else in the offer. In case bidder(s) intend to offer any Rebate/Discount, they should include the same in the item rate(s) itself under the "Schedule of Rates (SOR)" and indicate the discounted unit rate(s) only.

In case, it is observed that any of the bidder(s) has/have mentioned Discount/Rebate separately, the same shall not be considered for evaluation. However, in the event of the bidder emerging as the lowest bidder, the Discount/Rebate offered by the bidder shall be considered for Award of Work and the same will be conclusive and binding on the bidder.

14. Bid Currencies

14.1 Indian Bidders has to submit bid in Indian Rupees only.

15. Bid Validity

15.1 Bids shall be kept valid for 4 months from the final bid due date. A bid valid for a shorter period may be rejected by BCPL as non-responsive.

15.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by fax / e-mail. A bidder may refuse the request without forfeiture of his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of its bid security for the period of the extension and in accordance with Clause 16 in all respects.

16. Bid Security

16.1 Pursuant to Clause-12, the bidder shall furnish, as part of his bid, bid security in the amount specified in Request of Quotation (RFQ).

16.2 The bid security is required to protect BCPL against the risk of bidder's conduct which would warrant the security's forfeiture, pursuant to Clause- 16.7

16.3 BCPL shall not be liable to pay any bank charges, commission or interest on the amount of Bid Security.

In case Bid Security is in the form of a Bank Guarantee or irrevocable Letter of Credit, the same shall be from any Indian scheduled bank or a branch of an International bank situated in India and registered with Reserve bank of India as scheduled foreign bank in case of Indian bidder and from any reputed International bank or Indian scheduled bank in case of foreign bidder. However, in case of Bank Guarantee from banks other than the Nationalized Indian banks, the bank must be commercial bank having net worth in excess of Rs 100 crores and a declaration to this effect should be made by such commercial bank either in the Bank Guarantee itself or separately on its letterhead. Bid Security shall be valid for two months beyond the validity of the Bid.

16.4 Any bid not secured in accordance with Clause-16.1 and 16.3 may be rejected by BCPL as non-responsive.

16.5 Unsuccessful bidder's bid security will be discharged/returned as promptly as possible, but not later than 30 days after the expiration of the period of bid validity prescribed by BCPL.

16.6 The successful bidder's bid security will be discharged upon the bidder's accepting the award & signing the Agreement, pursuant to Clause-39 and furnishing the Contract Performance Security pursuant to Clause-40.

16.7 The bid security may be forfeited:

a) If a bidder withdraws his bid during the period of bid validity.

b) in the case of a successful bidder, if the bidder fails:

i) to accept the Notification of Award/Fax of Intent (FOI) or

ii) to furnish Contract Performance Security in accordance with Clause-40.

iii) to accept arithmetical corrections.

16.8 The Bid security shall be submitted in the form of crossed Bank Demand Draft drawn on any Nationalized/Scheduled bank in favour of BCPL , payable at State Bank of India, Dibrugarh . In case Bid Security is in the form of Bank Guarantee or Letter of Credit, the same must indicate the Bid Document and the work for which the bidder is quoting. This is essential to have proper co-relation at a later date. The Bid Security shall be in the form provided at F-4 (Bank Guarantee) .

16.9 For Indian Bidders: Central Public Sector Undertakings and firms registered with NSIC are exempted from furnishing bid security provided they are registered for the quoted items they intend to quote and subject to their enclosing with their bid a copy of the latest and current Registration Certificate.

17. Pre-Bid Meeting

a) Bidder who purchased the bids prior to Pre-bid will be given preference for queries & bidders should send the queries in email mkbinjola@bcplindia.co.in before 2 days of the pre-bid meeting.

b) The Bidder(s) or his official representatives are invited to attend a pre-bid meeting on date, time and venue specified above.

c) The bidder is requested to submit their queries /clarifications in the Format F7 of SECTION IIB of tender document through e-mail/ courier so as to reach BCPL at least one week before the Pre-bid meeting. These questions shall be replied during the Pre-bid meeting.

d) Non-attendance of the pre-bid meeting will not be a cause for disqualification of a bidder.

If the last date happens to be a Holiday/Sunday, the next working day will be considered as for pre-bid meeting.

18. Format and Signing of Bid

18.1 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, photocopies are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder. The name and position held by each person signing, must be typed or printed below the signature. All pages of the bid except for un-amended printed literature where entries or amendments have been made shall be initialed by the person or persons signing the bid.

18.2 The bid shall contain no alterations, omissions, or additions, unless such corrections are initialed by the person or persons signing the bid.

19. Zero Deviation

19.1 Bidders to note that this is a zero deviation tender. BCPL will appreciate submission of offer based on the terms and conditions in the enclosed General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Instructions to Bidders (ITB), Scope of Work etc. to avoid wastage of time and money in seeking clarifications on technical/ commercial aspects of the offer. Bidder may note that no technical and commercial clarifications will be sought for after the receipt of the bids.

19.2 Notwithstanding to the above, bids with deviation(s) to the following bid conditions shall be summarily rejected without any post bid reference to the bidders.

19.2.1 Firm and Fixed Price.

19.2.2 Bid Price as per clause-13.0 of ITB.

19.2.3 Scope of Work.

19.2.4 Specifications.

19.2.5 Schedule of Rates.

19.2.6 Completion Schedule/Contract period.

19.2.7 Period of Validity of bid.

19.2.8 Price Reduction Schedule/ Compensation for Delay/ Demurrages/Penalty

19.2.9 Performance bank Guarantee.

19.2.10 Arbitration / Resolution of Dispute

19.2.11 Force Majeure

19.2.12 Guarantee of Work

19.2.13 Applicable Laws

19.2.14 Any other condition specifically mentioned in the tender document elsewhere that non-compliance of the clause lead to rejection of the bid

19.3 In case Bidder stipulate deviations, Owner have the right to reject such bid at its absolute discretion without giving any opportunity for such Bidders to make good such deficiency

20. E-Payment

Not applicable

21. Agent/consultant/Representative/ Retainer/Associate

Not applicable

D. SUBMISSION OF BIDS

22. Sealing and Marking of Bids

22.1 Bid shall be submitted in the following manner in separately sealed envelopes duly super scribed as below:

Part I - Techno-commercial/unpriced Bid, EMD/Bid Security

Part II - Priced Bid

22.2 Part 'I' shall contain original of UNPRICED BID complete with all technical and commercial details other than price (with prices blanked out) & BID SECURITY + TENDER FEE in original .

22.3 Part 'II' PRICED BID shall be submitted in one original duly filled in Price schedule sealed in a separate envelope duly pasted with the corresponding cut-out slip enclosed.

22.4 The two envelopes containing PART 'I', PART 'II' should be enclosed in a larger envelope duly sealed and pasted with corresponding CUT OUT SLIP enclosed and also bear the name and address of The Bidder.

22.5 If the outer envelope is not sealed and pasted with the corresponding cut-out slip, BCPL will assume no responsibility for the Bid's misplacement or premature opening.

22.6 Each bidder shall submit only one bid. A bidder who submits more than one bid will be rejected.

23. Deadline for Submission of Bids

23.1 Bids must be received by BCPL at the address specified in the RFQ not later than the date and time stipulated in the RFQ.

23.2 BCPL may, in exceptional circumstances and at its discretion, on giving reasonable notice by fax or any written communication to all prospective bidders who have been issued the bid documents, extend the deadline for submission of bids, in which case all rights and obligations of BCPL and the bidders, previously subject to the original deadline will thereafter be subject to the deadline as extended. Any bid received by BCPL after the deadline for submission of bids prescribed on main body of RFQ will not be considered and returned unopened to the bidder. The bidder may modify or withdraw his bid after the bid submission but before the due date, for submission, provided that written notice of the modification/withdrawal is received by BCPL prior to the deadline for submission of bids. The modification shall also be prepared, sealed, marked and dispatched in accordance with the provisions of Clause 22, with the outer and inner envelopes additionally marked "modification" or "withdrawal", as appropriate. A withdrawal notice may also be sent by telex or cable, but followed by a signed confirmation copy post marked not later than the deadline for submission of bids.

24. Late Bids

24.1 Any bid received by BCPL after the deadline for submission of bids prescribed on main body of RFQ will not be considered and returned unopened to the bidder.

25. Modification and Withdrawal of Bids

25.1 The bidder may modify or withdraw his bid after the bid submission but before the due date, for submission, provided that written notice of the modification/withdrawal is received by BCPL prior to the deadline for submission of bids.

25.2 The modification shall also be prepared, sealed, marked and dispatched in accordance with the provisions of Clause 22, with the outer and inner envelopes additionally marked "modification" or "withdrawal", as appropriate. A withdrawal notice may also be sent by telex or cable, but followed by a signed confirmation copy post marked not later than the deadline for submission of bids.

25.3 No bid shall be modified after the deadline for submission of bids.

25.4 No bid shall be allowed to be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidder on the Bid Form. Withdrawal of a bid during this interval shall result in the bidder's forfeiture of his bid security pursuant to Sub-Clause 16.7.

25.5 In case after price bid opening the lowest evaluated bidder (L-I) is not awarded the Job for any mistake committed by him in bidding or withdrawal of bid or varying any term in regard thereof leading to re-tendering, BCPL shall forfeit Earnest Money paid by the bidder and such bidders shall be debarred from participating in re-tendering of the same job(s)/item(s).

E. BID OPENING AND EVALUATION

26. Bid Opening

26.1 Unprice Bid Opening:

BCPL will open bids, including withdrawals and modifications made pursuant to Clause 25, in the presence of bidders' designated representatives who choose to attend, at date, time and location stipulated in the RFQ. The bidders' representatives, who are present, shall sign a bid opening register evidencing their attendance.

26.2 Priced Bid Opening:

26.2.1 BCPL will open the price bids of those bidders who meet the qualification requirement and whose bids are determined to be technically and commercially responsive. Bidders selected for opening of their price bids shall be informed about the date of price bid opening. Bidders may depute their authorized representative to attend the opening. The bidders' representatives, who are present, shall sign a register evidencing their attendance.

26.2.2 The price bids of those bidders who were not found to be techno-commercially responsive shall be opened.

26.2.3 Bids shall be evaluated on overall basis including all taxes and duties but excluding service tax. The bidders are required to provide cenvat invoice (to the extent possible) to enable BCPL to avail Cenvat benefit. Evaluation methodology is as per SCC clause 39.

27. Process to be Confidential

27.1 Information relating to the examination, clarification, evaluation, and comparison of bids, and recommendations for the award of a contract, shall not be disclosed to bidders or any other persons officially concerned with such process. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of the bidder's bid.

28. Contacting the Employer

28.1 From the time of bid opening to the time of Contract award, if any bidder wishes to contact the Employer on any matter related to the bid, it should do so in writing.

28.2 Any effort by the bidder to influence the Employer in the Employer's bid evaluation, bid comparison, or Contract award decisions may result in the rejection of the bidder's bid.

29. Examination of bids and Determination of Responsiveness

29.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid

(c) meets the Bid Evaluation Criteria;

(d) has been properly signed;

(e) is accompanied by the required securities;

(f) is substantially responsive to the requirements of the bidding documents; and

(g) Provides any clarification and/or substantiation that the Employer may require to determine responsiveness pursuant to Sub-Clause 29.2.

29.2 A substantially responsive bid is one, which conforms to all the terms, conditions and specifications of the bidding documents without material deviations or reservations.

A material deviation or reservation is one

(a) that affects in any substantial way the scope, quality, or performance of the Works;

(b) that limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the contract; or

(c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

29.3 If a bid is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

30. Correction of Errors

30.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

(a) Where there is a discrepancy between the unit rate and the total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

(b) When there is a difference between the rates in figures and words, the rate which corresponds to the amount worked out by the contractor (by multiplying the quantity and rate) shall be taken as correct.

(c) When the rate quoted by the contractor in figures and words tallies but the amount is incorrect, the rate quoted by the contractor shall be taken as correct and not the amount and the amount corrected.

(d) When it is not possible to ascertain the correct rate, in the manner prescribed above, the rate as quoted in words shall be adopted and the amount worked out, for comparison purposes.

30.2 In case it is observed that any bidder has not quoted for any item in the Schedule of Rates (such unquoted item not being in large numbers), the quoted price for the purpose of evaluation shall be considered as the maximum rate quoted by the remaining bidders for such items. If after evaluation, such bidder is found to be the lowest evaluated bidder, the rates for the missing item shall be considered as included in quoted bid price. If the estimated price impact of the unquoted items is more than 10% of the bidder's quoted price, the above provision shall not be applicable and such bid shall be rejected.

30.3 The amount stated in the bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security shall be forfeited.

31. Conversion to Single Currency for Comparison of Bids

NOT APPLICABLE

32. Evaluation and Comparison of Bids

32.1 Bids shall be evaluated on overall basis including all taxes and duties but excluding service tax.

33 Preferences for Domestic Bidders

NOT APPLICABLE

34. Purchase Preference

34.1 Purchase Preference to Central Government Public Sector Undertakings shall be allowed as per government guidelines in vogue.

35. Compensation for extended stay

NOT APPLICABLE

F. AWARD OF CONTRACT

36. Award of work

36.1 Subject to Clause 29, BCPL will award the contract to the successful bidder whose bid has been determined to be substantially responsive and has been determined as the lowest, is determined to be qualified to satisfactorily perform the contract.

36.2 BCPL intends to award the entire work to a single bidder on overall basis.

37. Employer's Right to Accept Any Bid and to Reject Any or All Bids

37.1 BCPL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligations to inform the affected bidder or bidders of the ground for BCPL'S action.

38. Notification of Award

38.1 Prior to the expiration of period of bid validity BCPL will notify the successful bidder in writing by fax, cable or telex to be confirmed in writing, that his bid has been accepted. The notification of award / Fax of Intent will constitute the formation of the Contract.

38.2 Delivery shall be counted from the date of notification of award / Fax of Acceptance.

The notification of award will constitute the formation of a Contract, until the Contract has been affected pursuant to signing of Contract as per Clause 39 of ITB.

Upon the successful bidder's furnishing of contract performance security, pursuant to Clause 40 of ITB, BCPL will promptly notify each unsuccessful bidder and will discharge his bid security, pursuant to Clause 16 of ITB.

39. Signing of Agreement

39.1 BCPL will award the Contract to the successful bidder, who, within 15 days of receipt of the same, shall sign and return the acceptance copy to BCPL.

39.2 The successful bidder shall be required to execute an AGREEMENT in the proforma given in Instruction to Bidder (ITB) F-16 of this standard bidding document on non-judicial paper of appropriate value (the cost of stamp paper shall be borne by the Contractor), within 15 days of the receipt by him of The Notification of Acceptance of Tender. In the event of failure on the part of the successful bidder to sign the AGREEMENT within the above stipulated period, the Bid Security shall be forfeited and the acceptance of the tender shall be considered as cancelled.

40. Contract Performance Security

As Per RFQ and SCC Part -B

41. Corrupt or Fraudulent Practices

41.1 BCPL requires that bidders/contractors observe the highest standard of ethics during the execution of contracts. In pursuance of this policy, the Employer;

a) defines, for the purposes of this provision, the terms set forth below as follows;

I. "corrupt practice" means the offering, giving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract **execution; and**

II. fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition;

b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

c) will declare a firm ineligible, either indefinitely or for a stated period of time if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a contract.

41.2 Bidder is required to furnish the complete and correct information/documents required for evaluation of their bids. If the information / documents forming basis of evaluation is found to be false/forged, the same shall be considered adequate ground for rejection of Bids and forfeiture of Earnest Money Deposit (Bid Security).

b) In case, the information/document furnished by the vendor/contractor forming basis of evaluation of his bid is found to be false/forged after the award of the contract, BCPL shall have full right to terminate the contract and get the remaining job executed at the risk & cost of such vendor/contractor

without any prejudice to other rights available to BCPL under the contract such as forfeiture of CPBG/Security Deposit, withholding of payment etc.

c) In case this issue of submission of false document comes to the notice after execution of work, BCPL shall have full right to forfeit any amount due to the vendor/contractor along with forfeiture of CPBG/Security Deposit furnished by the vendor/contractor.

a) Further, such bidder/vendor/contractor shall be put on Blacklist/Holiday List of BCPL debarring them from future business with BCPL.

42 Misc.

A new clause in General Conditions of Contract has been appended as under:

The contractor shall obtain necessary certificate with regard to verification of character and antecedents in respect of personnel deployed or proposed to be deployed to carry out the contractual obligations and provide the copy of the said certificate for facilitating Photo Pass to enter into BCPL's premises.

43 Errant Bidder

In case after price bid opening the lowest evaluated bidder (L1) is not awarded the job for any mistake committed by him in bidding or withdrawal of bid or varying any term in regard thereof leading to re-tendering, BCPL shall forfeit Earnest Money paid by bidder & such bidder shall be debarred from participation in re-tendering of the same job(s)/item(s).

FORMS AND FORMATS

BIDDER'S GENERAL INFORMATION

To
 BRAHMAPUTRA CRACKER AND POLYMER LIMITED,
 P.O. LEPETKATA,-786006
 DISTRICT – DIBRUGARH
 ASSAM

(Country Code) (Area Code) (Telephone Number)

1-1 Bidder Name: _____

1-2 Number of Years in Operation: _____

1-3 Address of Registered Office: _____

City _____ District _____

State _____ PIN/ZIP _____

1-4 Operation Address
 if different from above:

City _____ District _____

State _____ PIN/ZIP _____

1-5 Address where order
 Is to be placed/ issued:

City _____ District _____

State _____ PIN/ZIP _____

1-6 Telephone Number:

 (Country Code) (Area Code)(Telephone Number)

1-7 E-mail address,

1-8 Website::

1-9 Fax Number:

1-10 ISO Certification, if any {If yes, please furnish details}

1-11 Whether Supplier / Manufacturer _____
 Dealer/Trader/Contractor

1-12 Banker's Name, Branch _____

1-13 Bank account number _____

1-14 TIN/CST/VAT _____(enclose copy of registration for TIN/CST/VAT)

1-15 SERVICE TAX NUMBER _____ (Enclosed Copy of ‘Service Tax Registration
Certificate)

1-16 PAN No. :

1-17 Whether SSI Registrant Or not :

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

BID FORM

F2

To,
Dy. General Manager(C&P) BCPL
Lepetkata, Dibrugarh, Assam (India)
Phone: +913732914609

Dear Sir,

After examining/reviewing the Bidding Documents for , including Special conditions of contract, Scope of work, General Conditions of Contract and schedule of rates etc. the receipt of which is hereby duly acknowledged, we, the undersigned, pleased to offer to execute the whole of the Job of..... and in conformity with, the said Bid Documents, including Addenda Nos. _

We confirm that this bid is valid for a period of Four(04) months from the date of opening of Techno- Commercial Bid, and it shall remain binding upon us and may be accepted by anytime before the expiration of that period.

If our bid is accepted, we will provide the requisite performance security for the due performance with in fifteen days of such award.

Until a final Purchase Order/ Agreement is prepared, the bid together with your written acceptance thereof in your notification of award shall constitute a binding Agreement between us.

We understand that Bid Document is not exhaustive and any action and activity not mentioned in Bid Documents but may be inferred to be included to meet the intend of the Bid Documents shall be deemed to be mentioned in Bid Documents unless otherwise specifically excluded and we confirm to perform for fulfillment of Agreement and completeness of the Work in all respects within the time frame and agreed price.

We understand that you are not bound to accept the lowest priced or any bid that you may receive.

SEALAND SIGNATURE
DATE:

Duly authorized to sign bid for and on behalf of M/s_____

(SIGNATUREOFWITNESS)

WITNESSNAME:

ADDRESS:

LIST OF ENCLOSURES

F3

Brahmaputra Cracker and Polymer Limited,
Administrative Building”,
NH-37, P.O. Lepetkata,
Dibrugarh, Assam, PIN – 786006

Dear Sir,

We are enclosing the following documents as part of the bid:

1. Power of Attorney of the signatory to the Bidding Document.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

(SEAL AND SIGNATURE OF BIDDER)

PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT
(To be stamped in accordance with the Stamp Act)

Ref.:-----

Bank Guarantee No.:-----

Date-----

To

BRAHMAPUTRA CRACKER & POLYMER LTD.
 “ADMINISTRATIVE BUILDING” LEPETKATA,
 NH-37, P.O. LEPETKATA, DIBRUGARH,
 ASSAM, PIN – 786 006

Dear Sir (s),

In accordance with Letter inviting Tender under your reference No.-----

M/s-----having their
 Registered/Head Office at----- (hereinafter called the
 Bidder) wish to participate in the said tender for-----

As an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of -----is required to be submitted by the Bidder as a condition precedent for participation in the said Tender which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the -----Bank at-----having our Head Office ----- (Local Address) guarantee and undertake to pay immediately on demand without recourse to the bidder by Brahmaputra Cracker & Polymer Limited., the amount -----without any reservation, protest, demur and recourse. Any such demand made by BCPL, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This guarantee shall be irrevocable and shall remain, valid up to----- (This date should be 180 days (One hundred & eighty days) after the date finally set out for closing of tender). If any further extension of this guarantee is required the same shall be extended to such required period on receiving instructions from M/s----- on whose behalf this guarantee is issued.

In Witness whereof the Bank, through its authorized officer, has set its hand and stamp on this -----day of -----201----- at -----

WITNESS:

(SIGNATURE)

(NAME) :

(OFFICIAL ADDRESS):

(SIGNATURE)

(NAME)

Designation with Bank Stamp

Attorney as per _____

Power of Attorney No.

Date: _____

LETTER OF AUTHORITY
PROFORMA FOR LETTER OF AUTHORITY FOR ATTENDING AND SUBSEQUENT
NEGOTIATIONS/CONFERENCES

Ref: No.

Date:

To,
 Brahmaputra Cracker & Polymer Ltd.
 “Administrative Building”,
 NH-37, P.O. Lepatkata,
 Dibrugarh, Assam, PIN – 786006

Dear Sir,

We -----hereby authorize following representative(s)
 to attend un-priced bid opening and price bid opening and for any other correspondence and
 communication against above Bidding Document:

- 1) Name & Designation -----Signature-----
- 2) Name & Designation -----Signature-----

We confirm that we shall be bound by all commitments made by aforementioned authorized
 representatives.

Place:
 Date:

Yours faithfully,
 (Signature of Authorized Signatory of Bidder)
 Name:
 Designation:
 Seal:

Note: This letter of authority should be on the letterhead of the bidder and should be signed by a
 person competent and having the power of attorney to bind the bidder. Not more than two persons are
 permitted to attend techno-commercial un-priced and price bid opening.

NO DEVIATION CONFIRMATION

To,
Brahmaputra Cracker & Polymer Ltd.
“Administrative Building”,
NH-37, P.O. Lepetkata,
Dibrugarh, Assam, PIN – 786006

Dear Sir,

We understand that any deviation/exception in any form may result in rejection of bid. We, therefore, certify that we have not taken any exceptions/deviations anywhere in the bid and we agreed that if any deviation/exception is mentioned or noticed, our bid may be rejected.

Place:
Date:

(Signature of Authorized Signatory of Bidder)

Name:

Designation:

Seal:

BIDDER'S QUERIES FOR PRE-BID MEETING

SL. NO.	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	BCPL'S REPLY
	SEC.NO.	Page No.	Clause No.	Subject		

NOTE: The Queries may be sent by e-mail to mkbinjola@bcplindia.co.in before due date for receipt of Bidder's queries.

SIGNATURE OF BIDDER: __

NAME OF BIDDER : _____

PRESENT COMMITMENTS OF THE BIDDER

Full Postal Address and phone nos of Client & Name of Officer-in-Charge	Description of the Work	Date of Commencement of Work	Scheduled Compo. Period	%Age Completion as on Date	Expected Date of Completion	Remarks

Note: This list must be a full list of all type of works in hand.

SEAL AND SIGNATURE OF
BIDDER

PROFORMA FOR BANK GUARANTEE FOR SECURITY DEPOSIT
(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

To:

Brahmaputra Cracker & Polymer Ltd.
 “Administrative Building”, NH-37, P.O. Lepetkata,
 Dibrugarh, Assam, PIN – 786006

Dear Sirs,

M/s _____ have been awarded the work of _____ for Brahmaputra Cracker & Polymer Limited, Dibrugarh – 786006, Assam. The Contracts conditions provided that the CONTRACTOR shall pay a sum of Rs----- (Rupees as Initial / full Security Deposit in the form therein mentioned). The form of payment of Security Deposit includes guarantee executed by Nationalized Bank, undertaking full responsibility to indemnify Brahmaputra Cracker & Polymer Limited, in case of default. The said-----has approached us and at their request and in consideration of the premises we having our office at ----- have agreed to give such guarantee as hereinafter mentioned.

1. We _____ hereby undertake and agree with you that if default shall be made by M/s --- ----- in performing any of the terms and conditions of the tender or in payment of any money payable to Brahmaputra Cracker & Polymer Limited, we shall on demand pay to you in such manner as you may direct the said amount of Rupees----- only or such portion thereof not exceeding the said sum as you may from time to time require.
2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on your under the contract with the said -----and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said -----which under law relating to the sureties would but for provision have the effect of releasing us.
3. Your right to recover the said sum of Rs----- (Rupees -----) from us in manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s ----- and/or that any dispute or disputes are pending before any officer, tribunal or court.
4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the save said but shall in all respects and for all purpose be binding and operative until payment of all money due to you in respect of such liabilities is paid.
5. This guarantee shall be irrevocable and shall remain valid upto-----If any further extension of this guarantee is required the same shall be extended to such required period on receiving instructions from M/s----- on whose behalf this guarantee is issued.
6. We have power to issue this guarantee in your favour under Memorandum and Articles of Association and the undersigned has full power to do under the Power of Attorney dated ----- granted to him by the Bank.

Yours faithfully,

 Bank
 By its Constituted Attorney

Signature of a person duly authorized to sign on behalf of the Bank.

DECLARATION

To
Brahmaputra Cracker & Polymer Ltd.
“Administrative Building”, NH-37, P.O. Lepetkata,
Dibrugarh, Assam, PIN – 786006

Dear Sir,

We hereby confirm that we are not under any 'liquidation', any 'court receivership' or similar proceedings and 'bankruptcy'.

We further confirm that, we have not been blacklisted or kept under holiday by any Public Sector Undertaking /Government Organization /GAIL (India) Limited/BCPL etc.

We agree that if any noticed in future, our Bid may be rejected / terminated.

Place:

Date :

[Signature of Authorized Signatory of Bidder]

Name:

Designation:

Seal:

ACKNOWLEDGEMENT CUM CONSENT LETTER

(Within 07 days of receipt of Bidding document, Bidder shall acknowledge the receipt and confirm his intention to Bid against the enquiry/tender through e-mail to or per return FAX by filling up the this Format)

To,

Sr. Officer (C&P)

BRAHMAPUTRA CRACKER & POLYMER LTD.

“ADMINISTRATIVE BUILDING”, P.O.LEPETKATA

DIBRUGARH, ASSAM, PIN – 786006

FAX: 0373 – 2914611 / 2914609

SUBJECT:

Dear Sir,

We hereby acknowledge receipt of a complete set of bidding document along with enclosures for subject item/work.

We undertake that the contents of the above bidding document shall be kept confidential and further that the drawings, specifications and documents shall not be transferred and that the said documents are to be used only for the purpose for which they are intended.

- A) We intend to bid as requested for the subject item/work and furnish following details with respect to our quoting office:

(i) Postal Address	:	_____
(ii) Telephone Number	:	_____
(iii) Telefax Number	:	_____
(iv) Contact Person	:	_____
(v) E-mail Address	:	_____

- B) Details of Contact person:

(i) Postal Address	:	_____
(ii) Telephone Number	:	_____
(iii) Fax Number	:	_____
(iv) Contact Parson	:	_____
(v) E-mail Address	:	_____

- C) We are unable to bid for the reasons given below and we are returning back the entire set of bidding documents.

Reasons for non-submission of bid :

Agency's Name : _____

Signature : _____

Name : _____

Designation : _____

Date : _____

Seal/Stamp : _____

PROFORMA FOR CONTRACT AGREEMENT

LOA No. BCPL /

Dated -----

Contract Agreement for the work of ----- of Brahmaputra Cracker & Polymer Ltd. (BCPL) made on ----- between (Name and Address)-----, hereinafter called the “CONTRACTOR” (which term shall unless excluded by or repugnant to the subject or context include its successors and permitted assignees) of the one part and BCPL hereinafter called the “EMPLOYER” (which term shall, unless excluded by or repugnant to the subject or context include its successors and assignees) of the other part. WHEREAS

A. The EMPLOYER being desirous of having provided and executed certain work mentioned, enumerated or referred to in the Tender Documents including Letter Inviting Tender, General Tender Notice, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, Plans, Time Schedule of completion of jobs, Schedule of Rates, Agreed Variations, other documents has called for Tender.

B. The CONTRACTOR has inspected the SITE and surroundings of WORK specified in the Tender Documents and has satisfied himself by careful examination before submitting his tender as to the nature of the surface, strata, soil, sub-soil and ground, the form and nature of site and local conditions, the quantities, nature and magnitude of the work, the availability of labour and materials necessary for the execution of work, the means of access to SITE, the supply of power and water thereto and the accommodation he may require and has made local and independent enquiries and obtained complete information as to the matters and thing referred to, or implied in the tender documents or having any connection therewith and has considered the nature and extent of all probable and possible situations, delays, hindrances or interferences to or with the execution and completion of the work to be carried out under the CONTRACT, and has examined and considered all other matters, conditions and things and probable and possible contingencies, and generally all matters incidental thereto and ancillary thereof affecting the execution and completion of the WORK and which might have influenced him in making his tender.

C. The Tender Documents including the Notice Letter Inviting Tender, General Conditions of Contract, Special Conditions of Contract, Schedule of Rates, General Obligations, SPECIFICATIONS, DRAWINGS, PLANS, Time Schedule for completion of Jobs, Letter of Acceptance of Tender and any statement of agreed variations with its enclosures copies of which are hereto annexed form part of this CONTRACT though separately set out herein and are included in the expression “CONTRACT” wherever herein used.

AND WHEREAS The EMPLOYER accepted the Tender of the CONTRACTOR for the provision and the execution of the said WORK at the rates stated in the schedule of quantities of the work and finally approved by EMPLOYER (hereinafter called the "Schedule of Rates") upon the terms and subject to the conditions of CONTRACT.

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:-

1. In consideration of the payment to be made to the CONTRACTOR for the WORK to be executed by him, the CONTRACTOR hereby covenants with EMPLOYER that the CONTRACTOR shall and will duly provide, execute and complete the said work and shall do and perform all other acts and things in the CONTRACT mentioned or described or which are to be implied there from or may be reasonably necessary for the completion of the said WORK and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in the contract.

2. In consideration of the due provision execution and completion of the said WORK, EMPLOYER does hereby agree with the CONTRACTOR that the EMPLOYER will pay to the CONTRACTOR the respective amounts for the WORK actually done by him and approved by the EMPLOYER at the

Schedule of Rates and such other sum payable to the CONTRACTOR under provision of CONTRACT, such payment to be made at such time in such manner as provided for in the CONTRACT. A N D

3. In consideration of the due provision, execution and completion of the said WORK the CONTRACTOR does hereby agree to pay such sums as may be due to the EMPLOYER for the services rendered by the EMPLOYER to the CONTRACTOR, such as power supply, water supply and others as set for in the said CONTRACT and such other sums as may become payable to the EMPLOYER towards the controlled items of consumable materials or towards loss, damage to the EMPLOYER'S equipment, materials construction plant and machinery, such payments to be made at such time and in such manner as is provided in the CONTRACT. It is specifically and distinctly understood and agreed between the EMPLOYER and the CONTRACTOR that the CONTRACTOR shall have no right, title or interest in the SITE made available by the EMPLOYER for execution of the works or in the building, structures or work executed on the said SITE by the CONTRACTOR or in the goods, articles, materials etc., brought on the said SITE (unless the same specifically belongs to the CONTRACTOR) and the CONTRACTOR shall not have or deemed to have any lien whatsoever charge for unpaid bills will not be entitled to assume or retain possession or control of the SITE or structures and the EMPLOYER shall have an absolute and unfettered right to take full possession of SITE and to remove the CONTRACTOR, their servants, agents and materials belonging to the CONTRACTOR and lying on the SITE. The CONTRACTOR shall be allowed to enter upon the SITE for execution of the WORK only as a licensee simpliciter and shall not have any claim, right, title or interest in the SITE or the structures erected thereon and the EMPLOYER shall be entitled to terminate such license at any time without assigning any reason. The materials including sand, gravel, stone, loose, earth, rock etc., dug up or excavated from the said SITE shall, unless otherwise expressly agreed under this CONTRACT, exclusively belong to the EMPLOYER and the CONTRACTOR shall have no right to claim over the same and such excavation and materials should be disposed off on account of the EMPLOYER according to the instruction in writing issued from time to time by the ENGINEER-IN-CHARGE In Witness whereof the parties have executed these presents in the day and the year first above written.

Signed and Delivered for and on
behalf of the EMPLOYER.

Signed and Delivered for and on behalf of
behalf of the CONTRACTORS.

BRAHMAPUTRA CRACKER & POLYMER LIMITED (NAME OF THE CONTRACTOR)

Date : _____

Place: _____

Date : _____

Place: _____

IN PRESENCE OF TWO WITNESSES

1 . _____

2. _____

1 . _____

2 . _____

BRIEF SUMMARY OF AGREED TERMS & CONDITIONS

Bidder M/s .

Offer Ref .

This Questionnaire duly filled in should be returned along with Un-priced Bid.

Clauses confirmed hereunder should not be repeated in the Bid.

Sl. No.	Description	Bidder's Confirmation
1	It is noted that deviations to Terms & Conditions shall lead to Rejection of offer, as specified in the Bid Document.	
2	Confirm Bid has been submitted as per Instructions to Bidders in bid document.	
3	Confirm that the offer shall remain valid for acceptance up to 4 (Four) months from Final Bid Due Date /Date of Opening of Bids	
4	Confirmed that the documents submitted are true and genuine and in case of any discrepancy noticed or observed at any stage, bidder shall be personally responsible for the damages or loss to BCPL	
5	Confirmed that PF registration certificate shall be provided before commencement of work (if awarded).	
6	Confirmed that Power of Attorney in favour of person who has signed the offer is submitted	
7	Confirmed that the contents of the Tender Document have not been modified or altered. In case, it is found that the tender document has been modified / altered by the bidder, the bid submitted by us shall be liable for rejection.	
8	Confirmation towards submission of EMD/Bid Bond of requisite value & its details.	
	a Bid Security No. & Date	
	b Value & validity	
	c Name & address of Bank Issuing Bid Security	
9	Provide PAN number.	
10	Provide Service Tax Registration number.	
11	Provide Sales Tax (VAT / CST) Registration number.	
12	Confirmation towards submission of duly filled, signed and stamped copy of complete tender documents (ITB, SCC, SCOPE OF WORK, GCC and all Annexure & Forms).	
13	Confirmation towards submission of duly signed & stamped copy of blank SOR (Schedule of Rates) showing that rate is quoted in same format.	
14	Confirmation towards submission of duly signed and stamped copy of No Deviation Confirmation as per F-6	
15	Confirmation of compliance to tender terms & condition without any deviation such as Scope of work, Specification, contract period & time of job completion, Terms of Payment, PRS/compensation for delay, PBG/ security deposit, Arbitration, Force Majeure, Guarantee of work, applicable laws, etc.	

16		Confirmed that all terms and conditions of the tender are acceptable in totality	
17		Confirm that the prices are quoted as per clause 13.0 of ITB.	
18		Bidder's name and address	
19		Confirm acceptance of Price Reduction Schedule (PRS)/Demurrage / Penalty for delay & Penalty clause as specified in the Bid Document.	
20		Confirm acceptance of Terms of Payment as specified in the Bid Document.	
21		Confirm quoted prices will remain firm and fixed till complete execution of the order. Fax of Intent shall be placed within offer validity as 'Notification of Award of Contract'.	
22		Confirm acceptance in totality of the Terms & Conditions contained in:	
	I	Instructions to Bidders	
	ii	General Conditions of Contract (GCC)	
	lii	Special Conditions of Contract (SCC)	
	Iv	Scope of Work	
	v	All other commercial documents/attachments of Bid Document	
23		Confirm towards submission of FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER at Annexure-Z	
24		Confirm that bidder has understood Preamble to Schedule of Rates and Schedule of Rates (SOR) completely and bidder has quoted accordingly.	
25		Confirm you will register under Assam before the commencement of work for WCT scheme.	
26		Indicate Name & Contact E-Mail/ Telephone/Mobile/Fax No. Of person(s) to whom queries, if any, are to be addressed against your bid	
27		SOR has been signed & filled up as quoted exactly in the same format of RFQ	
28		All 4 SOR duly quoted have been submitted	
29		All items of each SOR has been quoted	

BIDDER CONFIRMS THAT IN CASE OF CONFLICTING VERSION OF VARIOUS TERMS & CONDITIONS AT DIFFERENT PLACES, THE CONFIRMATION FURNISHED AS ABOVE SHALL BE CONSIDERED OVERRIDING AND FINAL AND ANY OTHER DEVIATION INDICATED ELSEWHERE SHALL BE TREATED AS REDUNDANT.

Signature _
Name-----
Designation _
Tel No.
E-mail -----
Fax No-. -----
Office St-am-p -----_

(FORMAT FOR CERTIFICATE FROM BANK IF BIDDER'S WORKING CAPITAL IS INADEQUATE)

(To be provided on Bank's letter head)

Bidder's Name:

Date:

Tender No.:

To
Brahmaputra Cracker and Polymer Limited
Lepetkata , Dibrugarh-786006

Dear Sir,

Certified that M/s.....(Name of the bidder with address) is an existing customer of our Bank.

It is confirmed that against tender No: _____ dated.....
.....2014 for

....."name of job/supply) ,
M/s.....(Name of the Bank with address)
confirms availability of line of credit to M/s.....(Name of the bidder) for at
least an amount of Rs.....Lakh.

It is also confirmed that the net worth of the Bank is more than Rs. 100 Crores.

Yours truly

For.....

Authorized signatory)
Name of the signatory
Designation

CHECK LIST FOR THE DOCUMENTS TO BE SUBMITTED ALONG WITH THE TECHNICAL BID.

SR NO.	DESCRIPTION OF DOCUMENTS TO BE SUBMITTED	DOCUMENT SUBMITTED		Please indicate Page No
		YES	NO	
1	Have you enclosed the duly certified Work Order and its completion certificate mentioning value of job completed as stipulated in BEC.			
2	Tender Fee has been submitted			
3	Earnest Money Deposit as per tender documents in the form of bank Guarantee/Demand Draft (DD)/Banker's Cheque/a letter of credit from any Nationalized/Scheduled Bank drawn in the favour of "BCPL." Payable at Dibrugarh.			
4	Have you enclosed Authority Letter/Power of Attorney for submission of Tender			
5	Have you enclosed No deviation form, duly filled signed & stamped.			
6	Have you enclosed complete tender duly signed & stamped.			
7	Have you enclosed Copy of PAN card			
8	Do you confirm that you will submit the cenvatable invoice if you get order.			
9	Have you submitted Corrigendum /Pre-bid queries			
10	Confirm if the following are submitted			
	Confirmation that the contents of the tender document bid document has not been modified or altered. In case it is found that the tender document has been modified /altered by bidder , the bid submitted by us shall be liable for rejection (In case of downloading from website).			
11	Confirm that the following document is submitted depending on bidder's nature of firm: 1. Copies of partnership deed(in case of partnership/LLP firm) 2. Affidavit or self declaration on letter head (in case of Proprietorship firm) 3. Memorandum and Articles of Association & Certificate of Incorporation (in case of private/public limited company) 4. Certification from competent person on their letter head (in case of PSU/Govt. Department) 5. Documentary evidence towards MSME .			

THE ASSAM VALUE ADDED TAX RULES, 2005
FORM-32 [See Rule 28(3)]
FORM OF PARTICULARS TO BE SUBMITTED BY THE CONTRACTEE

To,
THE ASSISTANT COMMISSIONER OF TAXES
DIBRUGARH

Sir,
Whereas I/We Brahmaputra Cracker and Polymer Limited, Lepetkata, Dibrugarh, Assam (Name and address)
have entered into contract, with _____ (Name of the contractor).

And whereas, I/We furnish hereunder the following particulars relating to the said contract:-

1. Full name and address & Taxpayer Identification No. of the contractor (in block letters)

2. Date of the contract: _____.(LOA No. _____)

3. Total and break up value of the contract: Total Contract Value Rs. _____
(Break-up not mentioned in the contract)

4..Place where the contract is to be executed : _____

5. Date by which the contract is under taken to be to be completed: _____

6. Brief description of the works to be carried out : _____

7. Details of the goods to be supplied by the contractee as free issue and the value thereof: _____

I/We declare that as stated above, I/We M/s. Brahmaputra Cracker and Polymer Limited, Lepetkata (Assam)
have entered in a works contract involving transfer of property in goods (whether as goods or is some other form).

I/We further declare that to the best of my/our knowledge and belief, the information furnished above is
correct, complete and is truly stated and nothing has been concealed.

Place : DIBRUGARH

Date : _____

(Signature with seal of the contractee)

SPECIAL CONDITIONS OF CONTRACT [SCC]

SPECIAL CONDITIONS OF THE CONTRACT
SCC: Part -A

1.0 GENERAL:

- 1.1 *The **Special Condition of Contract** shall be read in conjunction with the General Conditions of Contract, Schedule of rates, specifications, drawings and any other documents forming part of contract, wherever the context so requires. Notwithstanding the sub-division of the documents into these separate sections and volumes, every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the CONTRACT so far as it may be practicable to do so.*
- 1.2 *Where any portion of the “**General Condition of Contract**” is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears, the provisions of the Special Conditions of Contract shall be deemed to over-ride the provisions of the “**General Conditions of Contract**” and shall to the extent of such repugnancy, or variations, prevail.*
- 1.3 *Wherever it is mentioned in the specifications that the CONTRACTOR shall perform certain WORK or provide certain facilities, it is understood that the CONTRACTOR shall do so at his cost and the VALUE OF CONTRACT shall be deemed to have included cost of such performance and provisions, so mentioned.*
- 1.4 *The materials, design, and workmanship shall satisfy the relevant INDIAN STANDARDS, the JOB SPECIFICATIONS contained herein and CODES referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.*

The intending bidder shall be deemed to have visited the site. Non-familiarity with site condition and unawareness of General Condition of Contract will not be considered a reason either for extra claim or for not carrying out work in strict conformity with drawings and specifications.

2.0 LOCATION:

Refer SCC-Part B

3.0 SCOPE OF WORK:

The Scope of Work shall be as per Special Conditions of Contract (SCC) **Part-B.**

4.0 TIME OF COMPLETION / PERIOD OF CONTRACT:

As per (SCC) Part-B.

The work shall be executed strictly as per time Schedule given in Tender Document. The period of completion given includes the time required for mobilization as well as testing, rectifications, if any, re-testing and completion in all respects to the entire satisfaction of the Engineer-in-Charge.

5.0 **TERMS OF PAYMENT:**

Terms and conditions related to Payment terms are specified in **SCC Part B**.

6.0 **EARNEST MONEY:**

The bidder must deposit the earnest money as given in the letter/notice inviting tenders failing which the tender is liable to be rejected. Earnest Money can be paid by way of Demand Draft drawn on any Scheduled/Nationalized Bank in favor of “**M/s. Brahmaputra Cracker & Polymer Limited**” payable at **DIBRUGARH, ASSAM**.

Alternatively, Earnest Money may also be submitted in the form of Bank Guarantee from any Nationalized/Schedule Bank of India. The Bank Guarantee so furnished by the bidder shall be in the proforma prescribed by the OWNER attached with the Tender document. No interest shall be paid by the OWNER on the Earnest Money deposited by the bidder. The Bank Guarantee furnished in lieu of Earnest Money shall be kept valid for a period of **(6) SIX MONTHS** from the date of opening of tender.

BCPL will refund the Earnest Money of the unsuccessful bidders directly to the bidders within a reasonable period of time. Correspondence in this regard may be addressed to BCPL directly by the BIDDERS.

7.0 **INCOME TAX / SALES TAX / WORKS CONTRACT TAX:**

Income Tax deduction shall be made from all payments to the contractors as per rules and regulation in force in accordance with the Income Tax Act prevailing from time to time. Sales Tax, Works Contract Tax and other duties/ levies, as applicable shall be borne by the contractor.

The BCPL will issue the necessary certificate for income tax deduction at source, however, the contractor has to submit detail of their **Permanent Account No. (PAN)** before issue of such certificate. However, if the contractor has not been allotted PAN and has applied for the same to Income Tax department / the authorized agency nominated by Income Tax department, contractor shall submit the copy of application filed for allotment of PAN No. In absence of any of these documents, no TDS certificate shall be issued by BCPL.

Similarly, in case of Works Contract (involving both supply of material and services) Tax will be deducted at source by BCPL towards W. C. Tax at the rate applicable from time to time (presently 5%) and issue necessary certificate to this effect.

8.0 **SERVICE TAX:**

The Quoted rates should be inclusive of all taxes & duties applicable during the contract period except Service Tax and Education Cess thereon. Service Tax and Cess thereon shall be paid extra if applicable on submission of documentary evidence/invoice(s).

9.0 **SECURITY DEPOSIT:**

Items No.	Security Deposit Value	Description	BG Start Date	BG Validity
SP -01(Part A,B,C,D), SP – 02 (Part E) and Part G	10 % of the quoted amount (excluding taxes and duties)	Supply and installation of all H/w and S/w including Data center	Starting of contract	48+3 months
Part – F	10 % of the quoted amount (excluding	SAP Implementation	Starting of contract	18+3 months

	taxes and duties)			
SP - 04	7.5 % of one year quoted value (excluding taxes and duties)	System Support Services & Facility Management	Starting of Warranty / Support period	36+3 months

- 9.1 Above mentioned Security Deposit to be submitted either in the form of BG or DD within 15 days of receipt of LOA/LOI . Format of Bank Guarantee towards security deposit as performance bank guarantee is enclosed with tender. In case of BG, the validity period of BG should be beyond 03 months from date of expiry of warranty period. (To be read in conjunction with GCC- Clause No. 24)
- 9.2 No interest shall be payable by the Company to the contractor for the amount of Security deposit.
- 9.3 Contractor can furnish the total security deposit amount through bank guarantee from any nationalized /Schedule bank in prescribed proforma which shall be valid for 90 days beyond completion of the job or expiry of Defect Liability Period whichever is applicable.
- 9.4 Security Deposit shall be refunded within 90 days after the completion of work or Defect Liability Period whichever is applicable.

10.0 TECHNICAL SPECIFICATION:

As enumerated in Special Conditions of Contract / Scope of Work / Attached Drawing / Details / Schedule of Rates.

11.0 TESTS AND INSPECTION:

- 11.1 The Contractor shall carry out the various tests as enumerated in the technical specifications of this tender document and the technical documents that will be furnished to him during the performance of the work and no separate payment shall be made unless otherwise specified in schedule of rates.
- 11.2 All the tests either on the field or at outside laboratories concerning the execution of the work and supply of materials by the Contractor shall be carried out by Contractor at his own cost.
- 11.3 The Contractor shall provide for purposes of inspection access ladders, lighting and necessary instruments at his own cost for inspection work.
- 11.4 Any work not conforming to execution drawings, specifications or codes shall be rejected forthwith and the Contractor shall carryout the necessary rectification at his own cost.
- 11.5 All results of inspection and tests will be recorded in the inspection reports, Proforma of which will be approved by the Engineer-in-Charge. These reports shall form part of the completion documents.
- 11.6 For materials supplied by Owner, Contractor shall carryout the tests, if required by the Engineer-in-Charge, and the cost of such tests shall be reimbursed by the owner at actual to the Contractor on production of documentary evidence. Contractor shall inspect carefully all equipment before receiving them from Owner for installation purposes. Any damage or defect noticed shall be brought to the notice of Engineer-in-Charge.
- 11.7 Inspection and acceptance of work shall not relieve the Contractor from any of his responsibilities under this Contract.

12.0 MEASUREMENT OF WORK:

- 12.1 Measurement of works shall be made in the units mentioned in the Schedule of Rates as per details given in Technical/Standards specifications.

- 12.2 Wherever details are not available or inadequate in the execution drawings, physical measurements will be taken by the contractor in the presence of the representative of the Engineer-in-Charge. In such cases payment will be made on actual measurements.

13.0 DEFECT LIABILITY PERIOD:

The defect liability period shall be as per “SCC-Part B”

14.0 CONSTRUCTION EQUIPMENT AND SITE ORGANIZATION:

- 14.1 The Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and time schedule, progressively deploy adequate equipment and tools and
- 14.2 Tackles and augment the same as decided by the Engineer-in-Charge depending on the exigencies of the work so as to suit the work/construction schedule without any additional cost to owner. The bidder shall submit a list of construction equipment he proposes to deploy for the subject work along with deployment schedule. No Construction Equipment shall be supplied by the Owner.
- 14.3 Subject to the provisions in the tender document and without prejudice to Contractor's liabilities and responsibilities to provide adequate qualified and skilled personnel on the work, contractor shall deploy site organization and augment the same as decided by the Engineer-in-Charge depending on the exigencies of work, without any additional cost to owner. The bidder shall submit the details of minimum site organization proposed by him.

15.0 MOBILIZATION ADVANCE (M.A.):

No mobilization advance is payable for this work.

16.0 COMPENSATION FOR EXTENDED STAY:

No compensation for extended stay is payable to contractor.

17.0 ABNORMALLY HIGH RATED ITEMS (AHR ITEMS):

In items rate contract where the quoted rates for the items exceed 50% of the owners/estimated rates, such items will be considered as Abnormally High Rates Items (AHR) and payment of AHR items beyond the SOR stipulated quantities shall be made at the least of the following rates:

- (I) Rates as per SOR, quoted by the contractor.
- (II) Rate of the item, which shall be derived as follows:
 - a. Based on rates of machine and labor as available from the contract (which includes contractor's supervision, profit, overheads and other expenses).
 - b. In case rates are not available in the contract, rates will be calculated based on prevailing market rates of machine, material and labor plus 10% to cover contractor's supervision profit, overhead & other expenses.

18.0 MISCELLANEOUS:

All obligations arising of labor deployment labor laws to meet the necessary statutory requirement would solely lie on the contractor. Contractor would be solely responsible for safety and security of manpower and materials.

19.0 SUBMISSION OF TENDER DOCUMENTS:

Over-writing should be avoided. Any overwriting or cutting should be signed by the bidder. All copies of tender documents along with drawings should be signed and submitted by the bidder.

20.0 SCHEDULE OF RATES:

- 20.1 The rates quoted by the bidder shall remain firm for any variation and will assume to be inclusive of all taxes & duties excluding Service Tax & Cess thereon.

20.2 No escalation of whatsoever nature shall be paid to the contractor for the entire Contract Period.

21.0 COMPENSATION FOR DELAY:

As per GCC.

22.0 TERMINATION OF CONTRACT:

As per GCC.

23.0 CONTRACT AGREEMENT:

If the work is awarded the contractor shall enter into an agreement with BCPL in the prescribed Performa within 10 days of the issue of LOA/LOI whichever is earlier. The agreement shall be executed on non-judicial stamp paper of RS. 100/- .The cost of stamp paper shall be borne by the contractor. The format of agreement can be obtained from the office of the Deputy General Manager(C&P), BCPL, DIBRUGARH, ASSAM.

24.0 SUPERVISION OF WORK:

Contractor or his authorized representative shall be available at site all times, during the progress of the work.

25.0 CLEARANCE OF SITE:

25.1 As a part of the contract the contractor shall completely remove all temporary/disposable materials, while execution of work at his own cost and initiative and dispose off the same as directed by Engineer-in-charge.

25.2 The works will not be considered as complete and taken over by the owner, until all the temporary works, labor and staff colonies etc. constructed are removed and the work site cleared to the satisfaction of the Engineer-in-charge, surplus materials and rubbish is cleared off the site completely and the work shall have been measured by the Engineer-in-charge whose measurement shall be binding and conclusive.

25.3 If the contractor fails to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Engineer-in-charge may at the expenses of the contractor remove such, surplus materials and rubbish and disposal off the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall forthwith pay the amount of all expenses as incurred and shall have no claim in respect of any such surplus materials as aforesaid except for any sum actually realized by the sale thereof.

26.0 ADHERENCE TO SAFETY REGULATIONS:

Contractor shall ensure that all safety precautions required are observed at all times during the execution of the job.

27.0 NUISANCE:

The contractor or his representative shall not at any time cause any nuisance on the site or do anything which shall cause unnecessary disturbance to the owners or tenants or occupants or their properties near the site and to the public generally.

28.0 OWNER NOT BOUND BY PERSONAL REPRESENTATION:

The contractor shall not be entitled to any increases on the schedule of rates or any other right or claim whatsoever by reason of any representation, explanation statement or alleged representation explanation statement or alleged representation, promise or guarantees given or called to have been given to him by any person.

29.0 CARE OF WORKS:

From the commencement to completion of the work, the contractor shall take full responsibility for the care for all works including all temporary works any in case any damages, loss or injury shall happen to the work or to a part thereof or to any temporary works from any reason.

30.0 DEFENCE OF SUITS:

If any action in court is brought against the owner or an officer or agent of the owner, for the failure, omission or neglect on the part of the contractor to perform any acts, matters, convenient or things under the contract or damage or injury caused by the alleged omission or negligence on the part of the contractor, his agents, representative or his subcontractors or in connection with any claim based on lawful demand of sub-contractor, shall in such cases indemnify and keep the owner and/or their representatives harmless from all lesson, damages, expenses or decrease arising out of such action.

31.0 RESPONSIBILITIES OF THE CONTRACTOR AND COMPLIANCE WITH LABOUR/INDUSTRIAL LAWS:

- 31.1 The contractor shall have his own PF code no. with the RPFC as required under employee PF & Miscellaneous Provisions Act, 1952.
- 31.2 The contractors shall periodically submit the challans / receipts / proof for the depositing PF contribution with RPFC.
- 31.3 The contractor is required to obtain labor license under the provisions of Contract Labor (R&A) Act, 1970 from the office of ALC, Ministry of Labor, Govt. of India, Dibrugarh.
- 31.4 The contractor is liable to abide by all necessary licenses / permissions from the concerned authorities as provided under the various labor legislations.
- 31.4.1 The contractor shall discharge obligations as provided under various statutory enactments including the employee's provident fund and Miscellaneous Provisions Act, 1952, Contract Labor (R&A) Act, 1970, Minimum Wages Act, 1948, Payment of wages act 1936, workman compensation act and other relevant acts, rules and regulations enforced from time to time.
- 31.5 The contractor shall be solely responsible for the payment of wages and other dues to the personnel, if any, deployed by him latest by 7th day of the subsequent month.
- 31.7 The contractor shall be solely responsible and indemnify the BCPL against all charges, dues, claim etc. arising out of the disputes relating to the dues and employment of personnel, if any, deployed by him.
- 31.8 The contractor shall indemnify BCPL against all losses or damages, if any, caused to it on account of acts of the personnel, if any, deployed by him.
- 31.9 All personnel deployed by the contractor should be on the rolls of the contractor.
- 31.10 The contractor shall ensure regular and effective supervision and controls of the personnel, if any, deployed by him and give suitable direction for undertaking the contractual obligations.
- 31.11 The personnel to be deputed by the contractor shall observe all security, fire and safety rules of BCPL while at the site. His work will be supervised by the supervisors of contractor. Contractor has to be strictly adhere to guidance, instruction when required.

- 31.12 Contractor shall provide proper identification cards for his employees to be deputed by him for work, duly signed by the contractor or authorized person on behalf of contractor. Also the contractor should obtain entry passes from CISF through engineer-in-charge for his employees.
- 31.13 Contractor has to deploy the personnel with no past criminal records. Reformed people, names of such persons should be clearly indicated in case of. Also the contractor has to provide police verification for all the persons deployed by him.
- 31.14 While confirming to any of these conditions, the contractor should ensure that no law of state regarding labor, their welfare, conduct etc, is violated. The contractor shall indemnify BCPL for any action brought against him for violation, non-compliance of any act, rules & regulation of center / state / local statutory authorities.
- 31.15 All existing and amended safety / fire rules of BPC, BCPL are to be followed within the BPC plant or service center.
- 31.16 Contractor shall ensure payment of wages to the person employed and meet all statutory obligation of payment as per Minimum Wages act 1948 and payment of wages Act 1936.
- 31.17 Boarding and lodging facilities for contractor's personal for carrying out the work is to be made by the contractor at his own cost outside the plant premises.
- 31.18 Special safety equipment e.g. breathing apparatus etc. shall be arranged by the Contractor.
- 31.19 The contracts will be required to provide full body harness safety belt for all their workers working at site positively.
- 31.20 The contractor should submit a valid health check-up certificate of their workers/labourers to BCPL before starting the job from a recognized Government Hospital towards the sound health for carrying out the job/work at site by each individual deployed.
- 31.21 Before undertaking jobs, contractor shall take work permit from Engineer-in-charge and same shall be returned after completion of job.
- 31.22 All types of transport connected with the work shall be in the scope of the contractor.
- 31.23 Suitable site office space may be provided by BCPL if required and available.
- 31.24 BCPL will provide free water, steam, air and electricity at suitable points, if required, for undertaking the job.
- 31.25 All personnel undertaking the job proposed to be deployed by the contractor shall be medically examined and declared fit by qualified medical practitioner. It should be insured that no personnel engaged by the contractor is suffering from communicable disease.
- 31.26 Technicians/ supervisors deployed by the contractor should be technically qualified for fulfilling the contractual obligation.
- 31.27 In case of account, injury and death caused to the employee of the contractor while executing the work under the contract, the contractor shall be solely responsible for payment of adequate compensation, insurance money etc. to the next kith & kin of injured / diseased. Contractor shall indemnify BCPL from such liabilities.

31.28 The contractor shall also undertake to obtain necessary insurance coverage covering all risks connected with the job to be undertaken by him under the contract from insurance company and pay the premium accordingly.

32.0 PHOTO GATE PASS/LABOUR PERMISSION/VEHICLE PERMISSION :

The contractor shall arrange to make photo gate passes/labor permissions/vehicle passes etc. for his persons/labors/vehicles for working in site plant premises at his own cost as rules of the company.

33.0 ARBITRATION CLAUSE:

33.1 All disputes or differences, whatsoever, arising between the parties hereto pertaining to any part of the contract including its execution or concerning the WORKS or maintenance thereof this CONTRACT or to the rights or to liabilities of the parties or arising out or in relation thereto whether during or after completion of the CONTRACT or whether before or after determination, foreclosure or breach of the CONTRACT (other than those in respect of which the decision of any person is by the CONTRACT expressed to be final and binding) shall after written notice by either party to the CONTRACT be referred for adjudication to a sole arbitrator to be appointed by BCPL as hereinafter provided.

33.2 For the purpose of appointing the Sole Arbitrator referred to above, the Appointing Authority will send within thirty days of receipt of the notice, to the CONTRACTOR a panel of three names which are not connected with the work in question.

33.3 The CONTRACTOR shall on receipt of the names as aforesaid, select any one of the persons named to be appointed as a sole Arbitrator and communicate his names to the Appointing Authority within thirty days of receipt of names. The Appointing Authority shall thereupon without any delay appoint the said person as the sole arbitrator. If the CONTRACTOR fails to communicate his choice for appointment of an Arbitrator, the Appointing Authority shall do it on expiry of 30 days.

33.4 If the Arbitrator so appointed is unable to or unwilling to act or resigns or vacates his office due to any reason whatsoever, another sole Arbitrator shall be appointed as aforesaid.

33.5 The WORK under the CONTRACT shall however, continue during the Arbitration proceedings and no payment due or payable to the CONTRACTOR shall be withheld on account of such proceedings.

33.6 The venue of arbitration shall be Guwahati.

33.7 The award of the Arbitrator shall be final and binding on both the parties.

33.8 Subject to aforesaid the provisions of the Indian Arbitration and Conciliation Act, 1996 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.

34.0 JURISDICTION:

The CONTRACT shall be governed by and constructed according to the laws in force in INDIA. The CONTRACTOR hereby submits to the jurisdiction of the Courts situated at GUWAHATI for the purpose of disputes, actions and proceedings arising out of the CONTRACT.

35.0 PRICE PREFERENCE:

Price Preference to Central/State Government/Public Sector Enterprises (PSEs), Public Sector Construction and Services Enterprises or joint ventures with PSEs shall be applicable as per directives of Government of India.

36.0 SUMMARY TERMINATION OF CONTRACT DUE TO SUBMISSION OF FALSE DOCUMENT:

- 36.1 Bidders are required to furnish the complete and correct information/documents required for evaluation of their bids. If the information/documents forming basis of evaluation is found to be false/forged, the same shall be considered adequate ground for rejection of the Bids and forfeiture of Earnest Money Deposit.
- 36.2 In case, the information/document furnished by the contractor forming basis of evaluation of his bid is found to be false/forged after the award of the contract, BCPL shall have full right to terminate the contract and get the remaining job executed at the risk & cost of such contractor without any prejudice to other rights available to BCPL under the contract such as forfeiture of Security Deposit, withholding of payments etc.
- 36.3 In case the issue of submission of false document comes to the notice after execution of the work, BCPL shall have full right to forfeit any amount due to the contractor along with forfeiture of Security Deposit furnished by the contractor.
- 36.4 Further, such contractor/bidder shall be blacklisted for future business with BCPL.

37.0 SUBMISSION OF ATTESTED COPIES OF CERTIFICATES/DOCUMENTARY EVIDENCES

- 37.1 Further, the bidders are required to furnish the attested copy (ies) of Power of Attorney/Partnership Deed.
- 37.2 Bidders are required to furnish the attested copy (ies) of documentary evidence in support of meeting the Bidder's Eligibility Criteria.
- 37.3 Non-submission of the attested copies of the certificates/documents will render they bid non-responsive and liable for rejection.

38.1 SUB LETTING OF WORK:

No contractor shall sublet or assign any work in part or whole to any firm, individual, partnership firm, Pvt. Ltd., Company, Proprietorship firm etc without the prior written permission of BCPL. In case the contractor sublets or assigns the contract in part or whole without the prior written permission of BCPL and any claim referred by any firm / individual to BCPL stating that the main contractor has not paid his or their dues/ payments, in that circumstances, BCPL shall without assigning any reasons, withhold from the payments of contractor, the amount equivalent to the claim amount of sub-contractor/ individual/ vendor (s) etc. The same shall be released to the contractor after contractor and labour/ supplier/ sub-contractor jointly submits a joint written settlement to BCPL.

38.2 AFFIDAVIT:

The bidder shall submit an affidavit duly notarized to the effect "that the document submitted by him are true and genuine and in case of any discrepancy noticed or observed at any stage the bidder shall be personally responsible not only for the damages or loss to BCPL, but also for criminal proceedings under the relevant laws.

39.0 METHODOLOGY OF EVALUATION

AMOUNT QUOTED [SP00 = (SP01) + (SP02) + (SP03) + (SP04)]

(+)

SERVICE TAX APPLICABLE ON SP02 (SPST02)

(-)

AMOUNT OF CENVAT BENEFIT (CENVATABLE SERVICE TAX ON SP02 AND EXCISE DUTY) [(CvtED) + (CvtST02)]

(=)

GRAND TOTAL FOR EVALUATION [SP00 + SPST02 - (CvtST02 + CvtED)]

40.0 OTHER SPECIAL TERMS AND CONDITIONS

1. Work Contract Tax will be applicable only in SOR: SP02 viz. Construction of Data center and the bidder shall register accordingly to Assam VAT. The estimated contract value emerges in SP02 would be considered as contract value towards consideration of WCT etc.
2. C- form and Road permit would be issued only on items of SOR SP01.
3. For evaluation, Cenvatable Service tax would be considered for SP02 only.
4. Service tax would not be considered for SP03 and SP04 for evaluation being pure service Contract.
5. Entire responsibility along with custody of the material at Primary site viz. Lepetkata and at DR Site viz. Noida, UP lies with the contractor.i.e. Storage, transit insurance and safe custody of material covered under SP01 and SP02 lies with contractor till complete handing over of the same.
6. Required storage space would be provided by BCPL.
7. Seller shall arrange & bear all marine cum transit cum erection insurance till commissioning.
8. The evaluation of all the responsive bids for supplies (SP01) shall be made as under :
 - a. Ex-works price quoted by the bidder
 - b. (+)Packing & Forwarding (if any) as quoted (if percentage mentioned, then calculated on a.)
 - c. (+) Excise Duty & Educational cess [if percentage mentioned, then calculated on (A+B)]
 - d. (+) Sales tax against form C or without concessional Form / VAT [if percentage mentioned, then calculated on (A+B+C)]
 - e. (+)Transportation charges up to site as quoted [if percentage mentioned, then calculated on (A)]

(+) Commercial/Technical loading, (if any)

i.(-) Amount of Cenvat benefit against ED and Service tax to be passed on to BCPL, whichever is lower (refer Price schedule).

In case of statutory changes, the rate of ED & Cess, CST/VAT considered for evaluation shall be prevailing rate as on final date of Un priced Bid opening.

Bidders are required to provide cenvat invoice to enable BCPL to avail cenvat benefit.

NOTE: Price has to be quoted strictly in the price schedule format only with all desired break-up i.e. Ex-works, taxes, duties, freight etc for Indian Bidder. The bid will be rejected in case written as actuals or to pay extra

SPECIAL CONDITIONS OF CONTRACT –PART B

**Implementation of SAP and other IT systems
including H/w and construction of Data
Centre at BCPL**

SPECIAL CONDITIONS OF CONTRACT
&
SCOPE OF WORK

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1.0 INTRODUCTION

Brahmaputra Cracker and Polymer Limited (BCPL) is implementing the prestigious Assam Gas Cracker project, the first ever Petrochemical project in entire North East India. The project came as a part of the historic Assam Accord signed on 15th August, 1985 with the motive of overall socio-economic development of the region. It was approved by the Cabinet Committee on Economic Affairs (CCEA) on 18th April, 2006. Subsequently a Joint Venture Company BCPL was incorporated on 08th January, 2007 as Central Public Sector Enterprise under the under the Department of Chemicals & Petrochemicals, Govt. of India. The project is expected to generate scope for substantial investments in setting up of downstream plastic processing industries, thereby will generate both direct as well as indirect employment.

GAIL (India) Limited is the main promoter having 70% of equity participation and the rest 30% is equally shared by Oil India Ltd (OIL), Numaligarh Refinery Limited (NRL) and Government of Assam. Dr. Manmohan Singh, Honourable Prime Minister of India laid the foundation stone of this project on 9th April, 2007.

The Complex is spread over 3000 Bighas of Land at Lepetkata, and situated at approximately 15 Kilometers away from the Tea City Dibrugarh. M/s Engineers India Limited is the Engineering and Project Management Consultant for the project. Gas Dehydration and Compressor facilities are established at Duliajan along with Gas Sweetening Unit and C2+ Recovery Section at Lakwa.

The Feedstock for the project will be Natural Gas and Naphtha. OIL and ONGC will supply Natural Gas and Naphtha shall be supplied by NRL. The principal end products of the Complex will be High Density Polyethylene (HDPE) and Linear Low Density polyethylene (LLDPE) totaling 2, 20,000 Tonnes per Annum (TPA) and 60,000 TPA of Polypropylene (PP). The other products include Raw Pyrolysis Gasoline and Fuel oil.

2.0 SCOPE OF WORK

BCPL is going to establish its Business critical IT setup which includes but not limited to following:

- (i) Establishment of Hardware Infrastructure using Virtualization of Servers, Storage, Tape Library, Networking devices and related equipment
- (ii) Implementation of SAP, Microsoft Exchange, Active Directory, DNS, DHCP, Intranet, Database and other related applications
- (iii) Security components like Firewall, IPS, Antivirus, Content filtering, Anti-spam etc.
- (iv) Data Protection through Backup and Recovery
- (v) Disaster Recovery setup of complete IT system
- (vi) Construction of Data Center
- (vii) Post Implementation support and sustenance services.

In this regard, different item details are given as:

Annexure – A: Detailed specifications items to be supplied

Annexure – B: Location-wise bill of material (BOM)

Bidder shall supply, install, test and commission different hardware & software as per item specifications (Refer **Annexure – A**) at Primary & DR Datacentres (Refer **Annexure –B**).

Detailed scope of work for each of the above requirements is given as follows:

A. Network Infrastructure and Internet Setup

Bidder shall supply, install, test and commission the hardware and software for network and internet setup at BCPL Primary & DR site as per Annexure – A (Technical Specifications) and Annexure – B (Location-wise Bill of Material). Scope of work for the same is given below:

- The solution shall consist of following components:
 - i. WAN Routers
 - ii. Internet Routers
 - iii. Link Aggregators / Load-Balancers
 - iv. External firewall with IPS (between Internet & DMZ)
 - v. Internal Firewall with IPS (between DMZ & MZ)
 - vi. External DNS Servers
 - vii. L3 Switches for Internet setup, DMZ and MZ
 - viii. VPN Appliance
 - ix. AAA Appliance
- There shall be two layers of Firewall i.e. External & Internal Firewall as per proposed periphery network setup as given below. External firewall shall protect BCPL internal network from external world and internal firewall shall protect BCPL Systems setup in MZ from internal as well as external threats. **The External and Internal firewall has to be from two different make.**
- Only appliance based solution shall be accepted and both the firewalls shall have built-in IPS functionality in the same appliance.
- Bidder shall configure various networks, zones, natting etc. in both the firewalls as required by BCPL.
- Bidder shall provide security Logs, management and monitoring solution from the same OEM whose firewalls have been supplied.

- Intrusion Prevention System (IPS) is an intrusion protection solution designed to detect, prevent, and react to unauthorized activity throughout a network. IPS will provide security from internal and external security threats to the BCPL network. IPS will help to detect unauthorized activities on the resources of BCPL and to prevent the network from such activities by changing the security policies dynamically.
- It is required to implement Quality of Service features on all devices to prioritise the SAP Traffic over other traffic. The Bidder to study, plan and submit a Quality of Service implementation device wise design with inputs from BCPL. The Quality of Service need to be implemented in the data centre devices by the Bidder.
- It is required to control the authentication, authorization, and accounting (AAA) of users accessing various resources through the BCPL network.
- VPN Server will provide the connectivity of remote users to Data Centre network.
- Bidder shall integrate the network and security systems at Primary and DR sites i.e. integration of VPN with AAA servers, Integration of AAA server with Active Directory/LDAP/Domain Controller, integration of equipment with AAA servers for user authentication / accounting / authorization, NTP synchronization etc wherever applicable.
- Bidder shall carry out the configuration of the network and security equipment as per requirements from BCPL during warranty period at no additional cost to BCPL. This includes but is not limited to switch configurations, implementing Quality of Services for certain applications, compliance of BCPL security policies, VPN/AAA configurations etc in servers/equipments supplied by the bidder.
- For configuring SSL VPN, SSL certificate to be provided by the bidder at both Sites
- Bidder shall integrate AAA appliance with Active Directory/ LDAP/ Domain Controller
- The responsibility to provide, lay, integrate, test, commission and certify for performance, accessories, cabling components etc including penta-scanning of offered solution lies with the vendor and will be taken as an integral part of the solution.
- The data cabling should provide required bandwidth for smooth, fast and reliable data throughput across all hardware components and should be certified for satisfactory performance for 15 years from cable manufacturer.
- Proper documentation and tagging will be required for easy management and maintenance of Data Center cabling.
- Backup and restore procedure documents (including restoration from scratch) needs to be provided for all devices.

B. Virtualized Environment/Server & Storage Setup

Bidder shall supply, install, test and commission the hardware and software for making the virtual server setup on which applications like SAP, E-mail, Intranet, Database, Antivirus, e-banking etc. shall be hosted on individual virtual machines. New Virtual machines shall be created, modified or deleted on the supplied hardware as and when required by BCPL during warranty period.

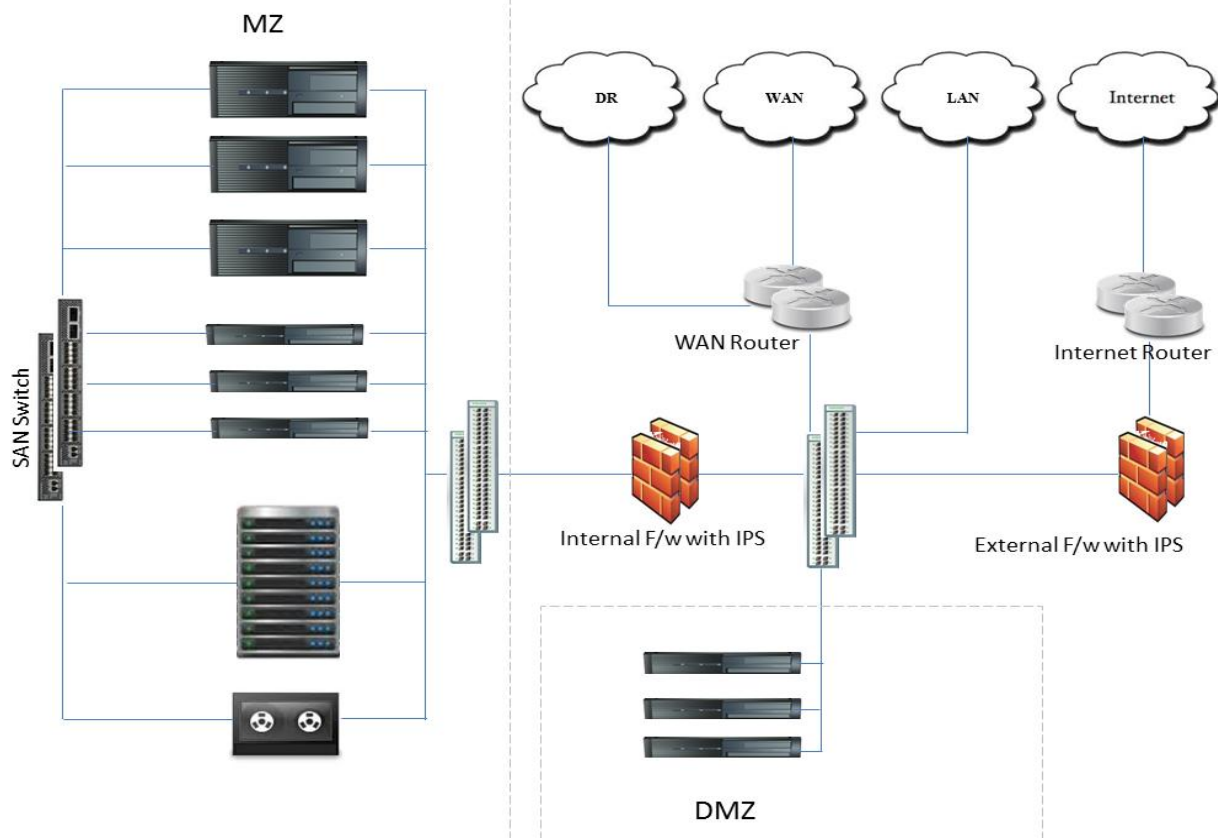
In Primary and DR Datacenters, three physical servers or hosts shall be configured to run virtualization software. The three physical servers at each datacenter shall be configured in High-availability to ensure maximum uptime for virtual machines running on physical hosts.

- Bidder shall prepare the deployment plan for various applications to virtual machines after discussion with BCPL and get the Deployment plan reviewed from OEM of Virtualization software.
- Bidder shall submit the reviewed deployment plan and letter from OEM of Virtualization software confirming that deployment plan has been reviewed by them and is in line with OEM best practices.
- Supplied Physical hosts and VMs shall be operational on 24X7 basis and VM's (Running on particular host) availability shall be ensured in case that particular physical host fails or during the planned shutdown. The VM's running on that host should become operational on any other host/server in the pool without any manual intervention. Any software/hardware/licenses etc. required to achieve the same shall be provided by the bidder.
- The VMs hosted on physical hosts will store their configurations and virtual disks on the shared storage or local storage based on the requirement of BCPL or OEM recommendations.
- All the existing physical machines running in the legacy hardware will be migrated and hosted on the virtualization hosts. Bidder shall ensure smooth migration of physical servers and all applications running on it to virtual machines ensuring minimum downtime to users.
- Any tools/tackles, accessories, software & utilities etc. required for migration from physical to virtual machines will be provided by the bidder.
- Some of the VMs shall be configured in cluster configuration for High-Availability.
- In case one server goes down, the VMs running on that machine should become operational on other available servers without any minor or no downtime to the users.
- Management console should be provided for operations and management of virtual machines i.e. Patch Update, Backup, Restore, Snapshot, VM-Cloning etc.

- All the VMs configured in Primary Site shall be DR enabled. DR Site shall be capable of running all the virtual machines at full load which are operational at Primary site.
- Bidder shall provide all servers licenses, management server license, client licenses (CALs) etc. or any other license required for above.
- All the OEM softwares for enabling Load-balancing/Multi-pathing etc. in the supplied solution shall be provided by the bidder.
- Failover configuration should handle automatic failover to other available physical node and maintain 100 percent availability after the failover has occurred.
- VMs should be accessible through single IP address and single name irrespective of the physical server on which it is running. Also it should generate an alert as popped up message / automatic E-mail to the administrators whenever the VM is made operational on other server from its parent server.
- There should not be any need of making any configuration changes to VM/Host Server, once it is made operational on any of the available physical host after the failover.

Similarly in DR Data Center, three physical servers or hosts will be configured to run the virtualization software. The servers shall be connected to the storage and high-availability shall be configured for these hosts. Configuration files and virtual disks of VMs stored in storage at Primary Data Center shall be replicated to the DR Data Center storage using storage-based replication functionality. During DR or as and when required by BCPL, the VMs shall be made up & operational at the DR Data Center.

Proposed Architecture - Primary and DR Site:



Backup Solution

Backup of SAP, E-mail and non-SAP database has to be taken in scheduled manner either on disk or on tape using the native backup utility of the respective applications or using any other application aware backup utility which is certified for taking application aware backup for above applications.

The backup of all the Virtual Machines in Primary and DR site are to be taken through backup server and tape library in such a manner that during backup, performance of the system/application is not impacted. To achieve the same SAN based backup (i.e. data is directly transferred from Storage to Tape Library through SAN) shall be configured for all the VMs. Any software/utilities/licenses required to achieve the same, shall be provided by the bidder. Supplied storage shall have all capabilities like Volume Snapshot capability etc (If required) from day one to achieve the above.

The OS, Application and data backup of the standalone servers are to be taken using external LTO drive.

Bidder shall provide all licenses including server licenses, management server license and client agent licenses (CALs) etc. or any other license required for backup of all the systems.

Cluster / Failover Solution

SAP production instance, E-mail and non-SAP database at Primary and DR site has to be configured in application aware high-availability cluster / failover mode to support 24x7 mission-critical operations. Clustering Agents / Failover Agents /Software / Hardware required for providing failover of these applications and recovering automatically for any failure arising due to hardware, database, operating system or application processes in any of the Virtual Machine (VM)to be provided by the bidder. The bidder has to provide latest Database, SAP and Exchange Agents for clustering and should not use any scripting to achieve clustering / failover functionality.

Microsoft System Center

Bidder shall supply, install, test and commission Microsoft System Center as per specification given in Annexure – A (Item Specifications) for the following:

- Management of Servers/VMs
- Monitoring of servers/ VMs
- Disk/Tape Backup/Restore of Servers/VMs/Exchange etc.
- Disaster Recovery

All the System Center servers shall be installed on Virtual Machines only at Primary & DR Site. During DR, all the management and monitoring operations shall be carried out from DR Site. No separate physical server shall be provided for installing the same.

Of the Virtual Machines / Servers etc. Bidder shall provide all servers licenses, management server license, etc. or any other license required for above.

DR for Proposed Setup

- DR of SAP, E-mail and non-SAP database has to be configured using the native application aware replication methodology of the respective applications.
- The replication of all the Virtual Machines are to be configured using storage based replication. Any software/utilities/ licenses required to achieve the same, shall be provided by the bidder.
- The proposed solution should offer 15 Mins RPO and maximum 12 Hrs RTO if Primary Site goes down.
- Complete Documentation for stepwise approach for handling daily backup activity including how to handle backups in case the data needs to be restored through backups at Primary and DR sites.
- Complete Documentation for stepwise approach to restore services in the event of disaster occurring at primary site and switching back to primary site at the shortest possible time after restoration of normalcy.

- The bidder must provide on-site support at the Disaster Recovery Site in the event of any disaster.
- The DR Plan documentation and other deliverables in this section shall be provided by the bidder.
- Mock Drill shall be carried out by the bidder at the interval of one year or as and when required by BCPL. Mock drill will involve failover of all or some of the servers/VMs/components to DR Site and failback of all or some of the servers/VMs/components to primary site.
- During the event of Disaster or Mock Drill, bidder shall provide all the 24X7 system support services from DR Site by deployment of manpower at DR Site. All the boarding, lodging & transportation costs for the same will be borne by the bidder.

C. Active Directory & E-mail setup using DNS/DHCP services, Intranet and non-SAP database.

Bidder shall supply, install, test and commission hardware & software as per Annexure – A AND Annexure – B to establish Active Directory and Exchange 2013 Setup for providing following services to the BCPL users:

- Active Directory Authentication Services
- E-Mail Services
- DNS
- DHCP
- File & Print Services
- Folder sharing
- Outlook Web Access
- Migration of e-mail setup from existing system to new system

As given in the proposed Active Directory & E-Mail Setup, bidder shall supply and install Root domain controller and additional domain controller at primary datacentre of BCPL and one additional domain controller at DR Datacentre of BCPL, for providing above services to BCPL users.

The e-mail setup shall be configured to meet the following requirements:

- The setup shall be hosted on a virtual machine.
- There shall be server level redundancy at Primary site.
- DR setup has to be established using native replication technology of Exchange 2013.
- Migration of existing e-mail setup (running on Exchange 2013 hosted on third party premises) is to be migrated to the new system.
- The bidder shall configure Exchange 2013 Auto-discover URL for mailbox access through outlook etc.
- AT each location, Outlook Web Access service shall be provided using Reverse Proxy in DMZ.

- At both the locations, all the In & Outgoing mails will be routed through E-Mail Gateway supplied as part of the solution.
- Bidder shall supply, install and configure the required Digital Server Certificates ((Exchange 2013 SAN)) for secure access (https) of the deployed MS Exchange 2013 Servers at Primary & DR site as per recommendation of Microsoft.
- Mails should be accessible from outside BCPL over Internet using OWA, Outlook Anywhere as well as mobile devices having Android, Windows mobile, IOS and Blackberry OS.
- Vendor shall discuss and finalize the plan & configuration of exchange databases, in consultation with BCPL.

The Intranet setup shall be configured to meet the following requirements:

- The setup shall be hosted on a virtual machine with Windows 2012 R2 OS.
- It will use IIS services for publishing asp and asp.net based web site.
- It should be capable to contain static and dynamic contents.
- Authentication of Intranet has to be made through AD.
- There shall be server level redundancy at Primary site.
- DR setup has to be established using storage based replication.
- Bidder shall supply, install and configure the required Digital Server Certificates for secure access (https) of the deployed Intranet servers at Primary & DR site to have secured access of Intranet portal.
- Intranet portal should be accessible from within or outside BCPL network by the users.
- It should use the database as supplied under “Database for non-SAP applications” as indicated at Annexure – A AND Annexure – B.
- All necessary software and license required for the above requirement is to be provided by the bidder and the licenses should be perpetual in nature.

D. Security Setup including Antivirus, Web-Gateway and E-mail-Gateway

Bidder shall supply, install, test and commission the Security setup including Enterprise Antivirus, Web-Gateway and E-Mail Gateway as per Annexure – A & B.

Bidder shall deploy Enterprise-wide Antivirus Solution, Web Gateway with Content-filtering & Security Solution for SMTP Gateway.

Enterprise-wide Antivirus Solution covering Desktop / Laptops / Servers / VMs

- Bidder shall install and configure the Enterprise-wide Antivirus Solution covering Desktop / Laptops / Servers / Virtual Machines/Hosts (VMs) as per specification given in Annexure – A.
- Bidder shall install and configure the antivirus software on all the Desktops, Laptops, supplied Servers, Virtual Machines/Hosts (VMs) across BCPL either remotely or physically visiting the BCPL Location. The tentative number of PC/Servers at BCPL locations is 500.

- Uninstalling of any existing antivirus (If required) on (Desktops, Laptops, Servers, Virtual Machines/Hosts (VMs)) and installing the new versions on to the same shall be under the scope of bidder.
- Bidder shall supply & install the Central/Staging Virus definition Server in physical / virtual machine.
- Bidder shall perform a study on the current network infrastructure and WAN link setup for installing the software at the BCPL locations remotely or by visiting the locations.
- Bidder shall ensure that the antivirus shall be installed on every system at every location across BCPL for maximum protection and would ensure virus free environment. The report of the other PCs, desktops, laptops, servers, Virtual Machines/Hosts (VMs) etc. which are not running with the latest antivirus is to be identified using any tool and the equipment shall be deployed with the latest antivirus solution.
- Bidder may install the Antivirus on clients remotely pushing the software directly to the desktops or third party methods. If not done successfully, the same shall be done manually by the personnel visit to the respective location of BCPL.
- As part of subscription, the bidder has to make sure that all the latest definitions of all the components are automatically updated in all the components. Also, all the product updates, upgrades, new releases / versions, patches etc. has to be provided and implemented in BCPL during the warranty period without any extra cost to BCPL.
- The policies are to be implemented in a way that Virus definitions and policies are automatically pushed by the parent server to child server and clients and no manual work is required for updation and upgradations. Bidder shall ensure that the same works in effective way by correcting the configuration, if needed.
- All the policies would be defined by the administrator of BCPL in co-ordination with the bidder's technical expert and it shall be the duty of bidder to implement the rules/policies.
- Reporting server shall be configured such that custom reports as required by BCPL would be generated. These include status of virus definition files, product version, top 10 virus, most affected systems, servers etc. Bidder shall also hardware and software for deployment of reporting server.
- The following policies will be configured
 - a. Policies related to reporting.
 - b. Policies related to scanning features (all files, selected files , extensions etc)
 - c. Policies related to the action taken if virus is found in the mail/files (clean, delete, quarantine)
 - d. Policies related to the update/upgrade schedule of the servers and desktops.
 - e. Policies related to the alternate path of updates and upgrades if the parent server fails.

Security solution for SMTP-Gateway (H/W Appliance based)

- Bidder shall install and configure the Appliance based DR Enabled Security solution for SMTP Gateway having Antispam & Anti-virus features as per specifications given at Annexure – A.
- This product is to be installed and configured at BCPL Primary & DR Datacentre.
- This product will ensure scanning of SMTP traffic for Viruses/worms, content, Subject Line, attachments etc and relay the traffic to the E-Mail server at primary or DR Site (In case of any disaster).
- Bidder shall supply Min. Two appliances at Primary Site and Min. Two appliance at DR Site.
- Bidder shall deploy SMTP Gateway appliances in High-availability mode with NSPOF (No single point of failure) at Primary site.

Web-Gateway with content-filtering (H/W Appliance based)

- Bidder shall install and configure the Appliance based DR Enabled Web Gateway having Proxy, content-filtering and cache features as per specifications given at Annexure – A.
- Bidder shall integrate the supplied system with Active Directory for authentication purposes so that internet access is available to the user only after the windows/AD Authentication.
- This solution will be used as web proxy in BCPL for access to internet.
- Vendor shall install and configure the product to ensure maximum protection by combining list based techniques with heuristic, context sensitive analysis for both virus protection and web content filtering.
- All the policies would be defined/configured by the bidder in co-ordination with BCPL administrator and OEM's technical expert.
- Bidder shall supply Min. Two appliances at Primary Site and Min. Two appliance at DR Site.
- Bidder shall deploy Web-Gateway appliances in Load-balanced, High-availability mode with NSPOF (No single point of failure) at Primary site.

DR for Proposed Solution

The proposed solution should offer maximum 6 Hrs RTO if Primary Site goes down. In the 6 Hrs RTO duration, following shall be carried out:

Enterprise Anti-virus Solution - Staging server at DR Site shall be made Central Definition Server (pointed to Internet for virus definitions) and Staging servers across sites shall be pointed to central server at DR site, for distribution of AV Definitions.

Web Gateway – The appliance(s) installed at DR site shall be made live and all the users across BCPL shall be pointed to it for Internet browsing. To achieve this, any changes (if required) in Active Directory Group Policy etc. shall be carried out by the bidder in co-ordination with BCPL.

SMTP Gateway – Incoming mails from internet shall be directed to appliance(s) installed at DR Site and filtered mails shall be relayed to exchange servers at DR Site. To achieve this, any changes (if required) in DNS Servers, Exchange Server etc. shall be carried out by the bidder in co-ordination with BCPL.

The DR Plan documentation and other deliverables in this section including complete documentation for stepwise approach (OEM Recommended) to restore services in the event of disaster occurring at primary site and switching back to primary site shall be provided by the bidder.

Mock Drill shall be carried out by the bidder at the interval of one year or as and when required by BCPL.

During the event of Disaster or Mock Drill, bidder shall provide support at DR Site of BCPL. If any visit of engineer is required at DR Site, bidder shall arrange for the same. All the boarding, lodging & transportation costs for the same will be borne by the bidder.

E. Construction of Data Centre

For detail of the data center requirement, Please refer **Annexure – E**.

Bidder may visit the premises before quoting. Bidder has to submit complete layout, specification, make & model, Bill of material along with the bid. Any additional equipment or higher configuration equipment required to be installed for achieving desired performance shall be in the scope of the bidder without any additional implication to BCPL.

F. SAP Implementation

For detail of the data center requirement, Please refer **Annexure – F**.

G. Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)

Proposed configuration of the systems and architecture indicated in this tender is to be treated as indicative only and design engineering of the complete solution has to be carried out by the bidder to fulfill the overall requirement at Primary & DR Site as per the BOM and establishing Disaster Recovery solution for the new setup. The total responsibility for the complete implementation and support shall rest with the bidder during implementation and Warranty/ Support period.

In case any additional tools/equipment, software, licenses, services, configuration are required to achieve the overall desired functionality, the same has to be incorporated in the proposed solution by the bidder without any additional cost to BCPL.

The supply of material and related services as detailed in Annexure - A includes all activities but not limited to the following:

- Supply, handling, installation, configuration, testing, and integration at sites of the ordered system as per BOM
- Bidder has to ensure safe delivery of the equipment up to the designated place of installation. Any transit insurance, labor, tools & tackles, etc. if required for the same, shall be arranged by the bidder at no extra cost to BCPL.
- Proper care has to be taken by the bidder to ensure that during various activities of installation of new components, upgrade of hardware/software etc., the existing operations are not affected. However, wherever it is anticipated that end-user operations may get affected, proper downtime may be sought from BCPL.
- Bidder shall ensure that during various phases of implementation, the performance, security, etc. of existing setup is not compromised.
- The installation & commissioning shall include all components and sub-components like Rack, Rack mounting kit, cables, connectors, accessories etc. required for completing the job as per scope.
- The bidder has to arrange for any temporary setup like LAN/SAN/Power- cabling/Ports/Servers etc during the installation/coexisting operating phase of the Temporary and new hardware/system, if required.
- All other equipment (associated hardware and software including peripherals, cables, accessories etc.) which are not explicitly mentioned in the tender document but are must for the implementation of the complete solution, are in scope of the bidder at no extra cost to BCPL.
- After configuration, adequate number of free ports will be kept in various LAN and SAN switch, storage for utilization in future, in case of any performance issue or additional configuration requirement in existing hardware.
- Any new requirement w.r.t. creation, modification or deletion of LUN, VM, Backup, Replication etc. in the supplied systems during warranty period shall be in the scope of the bidder.

- In case bidder is unable to carry out configuration or any job mentioned as per the tender document during the implementation and/or during Warranty / Support period, the bidder has to get that particular job or configuration done through the concerned OEM at no additional cost to BCPL.
- Bidder has to carry out configuration in storage, SAN Switch, tape library, backup solution, and data replication scripts etc as per the requirement of BCPL for adding/modifying/deleting the file systems for the existing/new application to be installed by BCPL on the same storage during warranty period at no extra cost to BCPL.
- The provision of earthing/grounding system if required for newly supplied equipment in addition to present earthing/grounding facility shall be in the scope of the bidder.
- Bidder has to configure the various supplied equipment for time synchronization.
- Whenever required (e.g., during Actual Disaster, Mock Drill, etc.), bidder shall carry out smooth switchover of various VMs/applications between Primary & DR Sites in the stipulated time lines as per the tender document.
- Bidder shall configure the alert, in case Storage-based data replication (asynchronous) is non operational due any reason beyond 15 minutes. Also an automated online monitoring of data replication has to be configured and implemented at BCPL.
- Bidder has to ensure that backup of all the Systems/Applications shall happen without impacting the performance of the applications.
- Bidder shall configure the backup at Primary & DR sites in such a manner so that during the backup period, the storage-based replication shall continue to work.
- Solution will have no single point of failure at all component levels including SAN Storage, Switches, NIC, and HBA/FC Cards etc.
- All the OEM software for enabling Load-balancing/Multi-pathing etc. in the supplied solution shall be provided by the bidder.
- Any problem faced during migration/redeployment shall be resolved by the bidder.
- All the data at Primary Site shall be replicated to the Disaster Recovery Site (Using Storage-based replication or Native Application-based replication) and vice-versa to take care of any site disaster issue.

- Bidder shall discuss and finalize the configuration of the complete solution in consultation with BCPL.
- Storage Area Network Disk Configuration shall be done as per OEM Best Practices and for optimum performance.
- Vendor shall install and configure OS program files on RAID-1 disk array/LUN in the storage.
- No changes are to be done at the client side during migration from Physical machine to Virtual machine. In case it is needed, the same shall be the responsibility of vendor.
- The installation & commissioning shall include all components and sub-components like cables, connectors, accessories, tools, tackles etc. required for completing the job as per scope.
- **Bidder shall be responsible for supplying the total solution to meet BCPL's requirement. In this regard, all the necessary tools, tackles, cables, H/w & S/w, accessories etc. (including any item not specified in BOM etc.) required to complete the Scope of Work as per tender document shall be provided by the bidder at no extra cost of BCPL.**
- Bidder has to provide servers with 38-42 U OEM / standard Rack with OEM rack mounting kit to accommodate all the servers as well as networking components / other supplied equipment in BCPL Datacenter. Bidder has to provide at least two additional Racks to accommodate future requirement.
- All data and power cabling with socket and termination shall be in the scope of the bidder.
- As part of regular system integration activity, the following activities are to be carried out:
 - Diagnostic check of the server, storage and its hardware configurations.
 - Operating System components check
 - All necessary server services configuration for successful functioning of application.

Documentation

- A complete documentation on implementation and deployment for each component will be provided by the bidder. The documentation will cover but not limited to the following:
 - Features installed and configured
 - Hardware/Software Configuration of the Servers
 - BCPL Deployment
 - Backup & Recovery
 - Disaster Recovery Process (Step-by-Step)
 - Troubleshooting

H. System Support Services & Facility Management

Please refer “GUARANTEES, WARRANTIES, SUPPORT & MAINTENANCE” section

3.0 PLACEMENT OF ORDER

After placing the LOI, the vendor shall submit the detailed Project Schedule to the Engineer-In-Charge stating the dates and activities planned including the details of the engineers that will be deployed for the installation and configuration of the solution. The schedule shall be having the clear details of the dates and the engineers visiting the site(s).

4.0 SUPPLY CONDITION

All equipment and sub equipment (sub system) supplied and installed at the stipulated locations shall be NEW and respective OEM make and confirming to the contract technical specifications. During the installation, the certificate of the newness from OEM shall be submitted by the supplier.

End-of-Life (EOL), End-of-Support (EOS) and near EOL or near EOS products shall not be quoted by the bidder.

The Bidder shall ensure that no other equipment/structure/setup gets damaged due to their activities. Any damages if caused to BCPL’s property due to Bidder’s negligence shall be passed on the Bidder’s account.

5.0 EXECUTION SCHEDULE

Milestones	Scheduled completion period from the date of LOI/ FOI	Base for LD
Construction of Data Centre	26 Weeks	Sub-Total E
Supply of all Hardware and Software at primary and DR site	26 Weeks	Sub-Total A + Sub-Total B + Sub-Total C + Sub-Total D
Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)	39 Weeks	Sub-Total G
SAP Implementation and go-live	52 weeks	Sub-Total F

Zero date for the Warranty will start only after successful completion of work at all sites, SAP Go-Live and signing of Acceptance Protocol by bidder’s representative and EIC.

6.0 INSTALLATION

All the pre-requisites regarding site readiness has to be clearly intimated to BCPL in advance and if felt needed, Bidder can visit the SITE(S) in advance and check for the readiness for power, housing, installation/operation etc. of the SYSTEM(S) at SITE(S). Bidder shall make recommendations on any of the parameters in case the same is not found in acceptable range, before the supply of the items.

Installation responsibilities

On completion of supply, Bidder shall get the Bill of Material checked and signed by EIC, carry out the installation, and show the SYSTEM(S) in working order to EIC at SITE. The Bidder shall configure the SYSTEM(S) as per the detailed scope mentioned in this document and further can be improved based on the discussions held at SITE with BCPL Team.

On successful completion of the Installation of the SYSTEM(S), these shall be handed over to BCPL. SUPPLIER shall submit the installation report along with SYSTEM(S) configuration report, results of diagnostic tests run etc. to BCPL.

Installation report has to be submitted by the vendor mentioning all the serial nos. of supplied hardware & software along with the required valid licenses. At the end of the project, before signing of the acceptance Protocol, the consolidated report mentioning the same needs to be submitted to EIC in the form of hard and soft copies.

7.0 ACCEPTANCE TESTS (AT)

On Site Acceptance Test (OSAT)

On completion of supply, installation, configuration, porting of data (if required) and fine tuning of the solution but before commissioning by the supplier, BCPL and supplier shall check for the correctness and completeness of the configuration and completeness in the solution for acceptability.

Complete functionalities shall be tested as per the specifications & functional requirements and the document shall be prepared mentioning the day to day operations, administration steps, backup documents and the implementation methodology used and to be followed.

8.0 GUARANTEES, WARRANTIES, SUPPORT & MAINTENANCE

- a) The SUPPLIER shall provide on-site comprehensive warranty, DLP& support valid for a period of 3 years from the date of acceptance of the entire solution or date of SAP-Go-live whichever is later. The SUPPLIER shall be responsible for trouble free operation of the entire solution including data centre equipment.
- b) The solution in BCPL shall be in operation for 24 hours and 365 days basis.

- c) Bidder shall provide support services for the supplied solution including all Hardware & Software on 24 Hour basis and shall deploy manpower for round the clock monitoring, troubleshooting & support of the supplied setup.
- d) The comprehensive warranty shall also include the battery of the UPS for the warranty period. If the same needs to be changed/replaced during the warranty period, the same needs to be done without any cost implication.

System Support Services

To provide maximum uptime and performance levels of supplied solution including all the Hardware & Software items at the respective sites detailed in the document, support jobs would include the following:

- **Operating System Administration:** Installation of OS, handling of OS related issues, installation of OS upgrades and patches, re-installing OS if required, periodic system performance tuning, monitoring server usage statistics, network OS support, startup and shutdown of servers. Addition, deletion, re-configuration of devices, additional users and printers. Housekeeping of servers such as disk space usage, files and folders, permissions, users and login on network etc. Implementing security on servers at all levels as per guidelines provided by BCPL.
- **Application and Database:** All the activities related to installation, configuration, patch management, health check, system administration, trouble shooting, resolution etc required in all application and database supplied as part of the project (including AD, Exchange, SAP, Antivirus, Non-SAP database, Backup solution, networking & Security devices etc) during deployment, normal operation as well as during disaster period has to be carried out by the bidder. Various activities of DR site can be performed remotely from the primary site however during Mock drill or actual disaster or as and when required by BCPL, bidder shall provide support services from DR. The support team has to monitor the data replication and consistency of the data at DR site in conjunction with the primary site.
- **Vendor Management:** Co-ordinate with vendors, agencies, service providers of all related works and equipment associated with Datacenter and installed at Datacenter. To co-ordinate with service providers for WAN related issues.
- **Backup & Recovery Management:** To ensure that all Servers and important data are protected against data losses and to cover all defined servers as per BCPL backup policy.
 - To perform regular backup depending on the schedule defined by BCPL
 - Proper labeling and housing of the media for identification and retrieval
 - Conduct restoration exercises at pre-defined periodic intervals to check availability of the backed up data
 - Regular maintenance of all the media and the backup device on quarterly basis
 - Backup of user data on need basis as per guidelines defined by BCPL
 - Maintaining log sheets for backups

- Ensure proper scheduling and taking of backups during non-peak hours
- To also backup servers at the system level on need basis
- To provide MIS reports such as weekly on backup and restoration logs(failed reasons), monthly report on planned backup & backups actually taken and Quarterly report on number of restoration drill performed and percentage of success, health status of media and drive.
- **Preventive Maintenance:** Comprehensive corrective maintenance of complete system including replacement / repair of defective parts and systems. Preventive maintenance and monthly cleaning of all the equipments.
- **Mock Drill:** Complete Mock drill cycle (fail over and fail back) shall be carried out by the bidder at the interval of one year or as and when required by BCPL. Mock drill will involve failover of all or some of the VMs & database to DR Site and fail back of all or some of the VMs & database to Primary Site. Regular 24X7 system support while maintaining all the shifts will be provided by the bidder from DR site by deploying manpower during Mock Drill.

The policy/strategy for remote login by the vendor's support centre to resolve problems shall be formulated during the acceptance testing phase and any infrastructure required for it will be arranged by the bidder.

Resources for System Support Services

To be able to effectively perform and meet the support services requirements of BCPL, the bidder will be required to depute the following personnel. The bidder has to ensure qualified and experienced personnel to manage the datacenter as mentioned below. In case of any lapses on the deputed resource's part, BCPL can issue a warning note and in case of lapses being repeated, BCPL can ask the Bidder to replace the concerned resource.

Qualification & Experience Chart:

SN	Resource	Qualification	Experience	Location
1	1 (One) no. of onsite Support Service Engineer on 24X7 basis	Graduate in Engg. / MCA	At least 2 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster & Mock drill</i>)
2	2 (Two) no. of onsite Support Service Engineer during BCPL Office hours	Graduate in Engg. / MCA	At least 2 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster & Mock drill</i>)
3	1 (One) no. of onsite SAP Support Service Engineer on 24X7 basis	Graduate in Engg. / MCA	At least 2 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster</i>)

				& Mock drill)
4	1 (One) no. of onsite SAP Support Service Engineer during BCPL Office hours	Graduate in Engg. / MCA with valid SAP OEM Basis Certification in Oracle Database Environment.	At least 2 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster & Mock drill</i>)
5	1 (One) no. of onsite Network and Security Support Service Engineer during BCPL Office hours	Graduate in Engg. / MCA with CCNA certification	At least 2 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster & Mock drill</i>)
6	1 (One) no. of onsite Helpdesk Executive during BCPL Office hours	Diploma/Graduate in any discipline	At least 1 years in a similar setup	Primary Site (<i>During normal operations</i>) DR Site (<i>During Disaster & Mock drill</i>)
7	1 (One) no. of onsite Support Service Engineer on 24X7 basis	Graduate in Engg. / MCA	At least 2 years in a similar setup	DR Site (<i>During normal operations</i>) Primary Site (<i>During Disaster & Mock drill</i>)

On-site Support Service Engineers: To manage the jobs within the datacenter as per the agreed SLAs, the bidder is required to place the following resources at BCPL's datacenters:

- Against Item-1, Item-3 and Item-7 support engineers shall be working in three shifts, so 4 (3+1 backup) engineers should be planned in case of full-time engineers for the required services.
- Against Item-2,4,5,6, support engineer shall be working during BCPL office hours.
- Bidder shall provide additional resources, if required to maintain the desired SLAs.

e) Bidder shall provide Server Management and OS Administration Services as per following:

- OS Installation & Upgrade
- OS Administration
- Resolving all server related problems.
- Orderly startup and shutdown of servers as per laid down procedures.
- Install software, patches, updates and service packs
- Security management – Configuring Account policy, Access rights, Password control
- Monitor the utilization of CPU, disk, memory and I/O parameters.
- Verify logs in event logger and periodically clean up log files
- Monitor NTP synchronization of the servers and other equipments

- Schedule and optimize the services running on the server
- Ensure all critical services are running on the server.
- Maintain list of all system files, root directories and volumes
- Take back up of the file systems and content specified by BCPL Administrators.
- Reload OS in case of a crash
- Startup and Shutdown of Database, OS and other related services
- OS performance tuning
- Network OS support
- Load latest anti-virus updates on the server
- Capacity monitoring and planning
- Carry out vaccination in case of anticipated virus breakouts.
- Supporting IIS applications
- Creating emergency repair disk and periodic update of the same.
- Installation of new server operating system along with RAID as per BCPL's requirement.
- Offsite tape movement monitoring.
- Print and File server management
- Compliance of various ISO formats.
- Maintain the change management of the systems
- Monitoring the various security related parameters
- Escalating unresolved problems to ensure resolution as per the agreed SLAs.
- Monitoring the archive logs gap with the primary site
- Complete monitoring of Data Replication between Primary & DR Site

Virus/Malware/Spyware Control Service

Bidder will provide Antivirus (Corporate Edition) software which will be installed on supplied servers & VMs by the bidder.

- Regular monitoring of update of antivirus signatures on all relevant servers.
- Diagnose and rectify any virus/malware/spyware problems which can be fixed by the antivirus tool.
- Provide feedback to BCPL on any new viruses detected.
- Carry out vaccination on the servers in case of anticipated virus breakouts by installing the relevant patches, definitions, etc.

Backup and Restore Service

- Perform regular backup operations as per BCPL's policy for all the supplied servers and check the backup logs.
- Backup Software Management
- Proper Labeling and housing of media for identification and retrieval
- Ensure proper storage and handling of tapes to prevent data loss.
- Auditing backup data & library
- Collate backup reports

- Maintain log sheets of backup taken.
- Keep the records of free and used media
- Status Updates and Report creation / Escalation
- Responsible for Off-Site backup Tape Movement as per the procedure decided by BCPL.
- Maintain Tape inventory and recommend for replenishing it after its lifetime.
- Analysis of logs related to backup performance
- Maintain the records of failed backup
- Monitor the I/O utilization of various file systems
- Creation and modification in the backup/replication scripts as when required

Database Management Service

Activities that needs to be performed on a regular basis:

- Analyzing trace files and alert log files.
- Starting and Stopping the Database instance (if required).
- Changing passwords as per BCPL's policy.
- Monitoring the availability of tablespaces and data files.
- Monitoring the availability of free space and space utilization.
- Checking for fragmentation in the tablespace as a whole and checking for fragmentation at the file level.
- Monitoring the growth of objects and the distribution of extents.
- Checking for Database fragmentation and rebuilding / reorganizing it accordingly.
- Creating, Configuring and Monitoring rollback/undo segments.
- Configuring Database performance tuning and Database Audit trail
- Understanding, Detecting and resolving I/O problems by constantly monitoring.
- Analyzing the objects at regular interval.
- Identify opportunities to increase the performance of the batch programs.
- Changing parameter file appropriately.
- Managing database objects.
- Monthly Database uptime & performance report
- Any other report as per BCPL's standards & requirements.

Activities that need to be done under emergency situations:

- Identifying and resolving database corruption issues.
- Recovering the database.
- Relocating data files, log files and control files during hardware failure.
- Resolving any other technical / database issue that is a showstopper.
- Switching from primary site to disaster recovery site as per RPO & RTO defined in the tender document.
- In case the support team available at site for various domains is unable to resolve the problem timely, Vendor shall have provision of assisting the team either through expert supports remotely or by deputing the experts on site, so that services are BCPL not hampered w.r.t. non availability as well as performance related issues.

Activities that need to be performed based on request:

- OS/Database upgrade / patch application as and when required by BCPL.
- Allocating system storage and SAN/Storage configuration as and when required by BCPL or as per various application requirements operational at BCPL.
- Monitoring and optimizing the performance of the OS & database as per OEM's guidelines.

Storage Area Network Service

- Storage Parameter tuning
- Regular performance tuning
- RAID rebuilding as and when required
- Point-in-time copy setup and regular monitoring
- Allocating system storage and planning for future storage/disk requirements for the database systems as per SAP applications requirements
- Monitoring and analyzing any I/O bottlenecks
- Creation , Publishing and Mounting of LUNs on the respective servers
- Monitoring of SAN switches
- Configuration related to zoning in the SAN switches

Activities to be performed weekly:

- Check database for free space.
- Monitor database growth.
- Checking spool for problems and that spool are properly cleared.
- Check file-system for adequate space.
- Monitor systems for update.
- Monitor alert mechanisms.
- Clean tape drives.

Activities to be performed monthly:

- Plotting database growth
- Taking Backup of file server.
- Review file system usage
- Checking consumable supplies
- Archiving quarterly backup
- Review security as per BCPL's policy.
- Review scheduled jobs (Review all scheduled jobs to determine if they are still appropriate.)

The monitoring is not restricted to the above list, the service engineer is supposed to monitor any other activity required for smooth operation of the supplied systems & solution at Primary & DR Site and take corrective actions in case of problems encountered on any of the monitoring activities.

VM Resource Monitoring and Sharing Service

In case of server partitioned to provide multiple VMs, the service engineer is expected to:

- Monitor and Analyze Resource Allocation to each VM
- Reallocate resources between VMs as and when required
- Maintain resource utilization statistics

Disaster Recovery Service

- Switching to DR Site completely or partially for testing at intervals to be decided by BCPL.
 - Continuous monitoring and assessment of infrastructure for DR solution at these two locations to ensure smoothness and completeness of on-going operations.
 - Hot Fix/Patch upgrade for the software required for data replication used in DR solution.
 - Monitoring and enabling of transfer of data to DR site on on-going basis. Further, as per the requirements, the activity should be done for transferring of data from DR site to Primary site.
 - Generation of all necessary log reports including the hardware resources utilization report, identification of performance bottlenecks, for capacity monitoring etc.
- f) There shall be one phone number/ one mobile number/ one fax number / one e-mail box wherein we can book the call. The Non-performance Deductions shall be calculated from the call booked time to the call resolved time and cumulatively all the down times shall be added and the Non-performance Deductions shall be quarterly calculated accordingly.
- g) Any reconfiguration / reloading of software are required for hardware/software related problem(s) shall be covered in the warranty.
- h) All the supplied software shall be with the required valid licenses which shall be perpetual in nature. These valid licenses shall be part of the supply and installation (whether mentioned explicitly or not), only after which the supplied solution will be accepted.
- i) Vendor shall provide support on 24 X 7 X 365 basis.
- j) The SUPPLIER shall be responsible for the supplied solution for trouble free operation. Any reconfiguration / reloading of software (on new hardware or on the same hardware), modifications in the solution on need basis are covered under the warranty without additional expenditure.
- k) The executives should be performing the following jobs within the scope of the contract:
- Helpdesk Executive: They will be the focal point for logging all the user calls. The executives should clearly understand the deliverables as per the contract between BCPL and the Bidder.
 - Record and track each call to its resolution.
 - Escalate the calls as required.
 - Perform periodic user satisfaction surveys.

- *On-site Service Engineer:* Service engineer for System Administration and repair/maintenance of the systems, backup solution, Tape Library, Data Replication and Storage etc.
- Monitor the Data Center environment (A/C, UPS, Fire Alarm, Access Control, etc.) at Primary & DR Site and escalate the problems to the respective vendors and get them resolved as per the SLAs.
- For On-site Service Engineer working in three shifts, bidder has to plan the no. of resources required for running the shifts accordingly.
- At DR Site, the On-site Service Engineer shall also perform the jobs of network Engineer, SAP Basis Engineer and monitor the Data Center environment (A/C, UPS, Fire Alarm, Access Control, etc.) in coordination with primary site engineers and escalate the problems to the respective vendors and get them resolved as per the SLAs.
- *On-site SAP Support Engineer:* SAP BASIS engineers for SAP System Administration on Oracle database during normal BCPL working hours for Primary site. However, during initial project phase or in critical workload times, the SAP BASIS engineers will be required to align office timings so that one of them is present at site beyond normal working hours to resolve any problems or carry out transport requests etc.
- *On-site Network Engineer:* Network Engineer for the maintenance/ configuration/ patch-update/ firmware-upgrade etc of the network & security devices within the Data Center during normal BCPL working hrs. However, in case of urgent requirements, the engineer may be required to be present at site beyond normal working hours to resolve any problems. He/she shall also provide remote support for network at DR site and bidder shall arrange its network engineer on call basis if required at primary/DR site to help the primary site network engineer for timely resolution of issues.
- Bidder shall provide additional resources at no extra cost to BCPL, if required, to maintain the desired SLAs.
- BCPL General shift working hours including the yearly calendar shall be informed to the bidder to deploy the resources accordingly.
- The bidder or manpower have to comply with the requirements of ISO 9001:2008 or ISO 27001 or other IT standards in BCPL Data Center (primary and DR) as and when such standards are adopted by BCPL.

Third Party Audits

- Bidder has to carry-out third-party audit at least once in a year during the Warranty period for various equipment such as servers, storage, backup solution, network and security equipment for Primary and DR site and carry out the compliance of the audit recommendations. During the audit, penetration testing from within BCPL network and outside BCPL network has also to be carried out.
- The Audit team should have at least one CISSP certified network security expert to audit BCPL's SAP systems. The findings of the Audit will be implemented by the Bidder in consultation with BCPL.

- Bidder should engage only CERT-in empanelled Indian Firm for carrying out Third party security audit for Systems.
- Bidder has to carry out third-party power and environment audit from authorized/expert agency at least once in every year during the contract period for all Primary and DR locations. The bidder shall comply with all the recommendations related to audit reports like: Sulphur content, carbon content etc.
- Expenses incurred towards supply and installation of suitable equipment/instruments in datacenters (primary and DR) shall be borne by BCPL so that environment parameters comply with audit reports.

System Management Controls

To be able to provide quality services for the Data Center jobs, it is mandatory that the bidder must follow well-defined set of processes and procedures. The bidder must adhere to these processes and procedures to deliver consistent quality services throughout its contractual period in BCPL. The hardware and software license for service desk component shall be provided by BCPL. Any other hardware / software to meet the requirements under this section must be provided by the bidder. The bidder is expected to have the following System Management Controls in place:

- **Problem Management**

The Bidder must develop an effective problem management system. The system must have procedures that help reduce the impact of problem that occur and minimize its reoccurrence. It should help in identifying the root cause of the problem and proper recording and tracking of the problem till its resolution.

- **Incident Management**

Once an incident has been detected, experienced, or generated information about that incident should be recorded in the Incident Database. The incidences must be recording category-wise. The incident recorded must be resolved and closed properly by the service desk.

- **Change Management**

In any system, change is inevitable. To be able to provide high levels of availability, the bidder must ensure a proper change management process. Planning, impact assessment, scheduling, monitoring, implementation and fallback support form part of the change management system.

- **Availability Management**

The bidder must define the processes/procedures which ensure the service delivery as per the required SLAs or exceed it. It should cover various equipment for the BCPL SAP setup such as all Replication software, networks, Servers, Switches, SAN, UPS, AC, Fire Alarm, Access Control, other site specific services, and the critical services and their supporting hardware, micro-code, firmware, and software components, as defined in scope of work.

- **Performance Management**

The recording, monitoring, measuring, analyzing, reporting, and forecasting of current levels, potential bottlenecks, and enhancements of performance characteristics for the Services, networks, applications, system software, and equipment within the scope of this initiative.

System tuning and optimization is an inherent part of this SMC. Where warranted, the Bidder will utilize Capacity Management data in combination with Performance Management data to identify ways to improve performance levels of the resources, extend their useful life, and request BCPL to approve revisions/upgrades to the computing and communications hardware, software and other equipment such that higher levels of performance of the resources are obtained.

- **Capacity Management**

The continuous monitoring, periodic analysis, and forecasting of the changes necessary to quantify capacity and configuration of finite resources comprising the computing and communication hardware and software infrastructure supported under this initiative by Bidder. Categories of resources to be capacity managed include but are not limited to, servers, WAN/LAN components, Servers, system software, UPS and AC.

- **Service Level Management**

The bidder must ensure systemic collection, monitoring, reporting, and adjustment of processes and procedures to insure that the SLAs defined in this Agreement are met or exceeded. Included in this activity is the development of process, procedures, and tool sets that drive continuous improvement of the required SLAs.

- **Configuration & Certification Management**

The scope of service includes technical evaluation and documentation of configurations (new & changed) for all computing, communication components (including in-scope Software and Equipment) and environmental components for which the Bidder has operational services' responsibility under this initiative.

Certification testing insures that changes to the production environment are tested before their introduction via the Release Management and Change Management services into the production infrastructure. The Bidder will provide BCPL with new and revised configurations for the involved components, systems, and networks as they change over the Term.

- **Release Management**

The bidder must define the process of controlled introduction of new releases, versions, configurations, and products into BCPL's communications, computing and other Data Center equipment including UPS (as may be applicable) etc included are all in-scope hardware, software products and other Data Center equipment that run within the infrastructure environment of and support BCPL Data Center.

- **Security Management**

The protection from unauthorized usage of the physical and logical facilities that encompass BCPL's processing and communication environment in the Data Center including access control, firewall and intrusion prevention/detection for the network. Management thereof, detection of intrusions, reporting as required by BCPL and proactive prevention actions are to be provided by the Bidder. BCPL will set security direction and the Bidder will administer security using an agreed upon tool.

- **Detection & Eradication Management**

It requires the proactive detection and removal of any virus that may affect the computing and communications infrastructure. The Bidder is to use the agreed detection tools, keep the tools current, support the users in the recovery process if infected, remove root causes for potential future infection, and to report to BCPL on all incidents and actions to prevent future infections. Bidder shall not bring any items like pen-drive, memory-card, laptop etc in the data-center which may potentially bring virus / malware etc to the systems.

- **Inventory Management**

The accurate maintenance of detailed records/inventories at the device level and effective life cycle management of, but not limited to, the supported machines, Servers and associated peripherals, Servers, and software, other Data Center equipment for those environments for which Bidder shall provide services.

- **Vendor Management**

The Bidder is responsible to provide full vendor management oversight, control, and problem escalation to the involved agent, billing verification and refer invoices to BCPL. BCPL expects the Bidder to act as their representative in these relationships.

- **Software License Management**

This Service provides for software license management (controlled access to software products) and control (compliance with usage and licensing agreements).

The Bidder must:

- Perform an inventory of software licenses in place as of the Start Date;
- Develop and maintain a software license inventory data
- Maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance;
- Perform periodic audits to measure license compliance against the number of valid End User software licenses consistent with the terms and conditions of site license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions;
- Report to company on any exceptions to bidder terms and conditions, to the extent such exceptions are discovered;
- Not use any unlicensed software.

Data Center Jobs

The FMS manpower will in-general take care of following activities. These activities are only indicative and not exhaustive. BCPL may assign other system/data-center related tasks as and when may be required:

a) General Tasks / Activities

- Log all SAP related user calls, Network, Power, AC, Fire Alarm, Security Access calls and give them a trouble ticket number.
- Classify the helpdesk calls
- Assign severity level to each call
- Track each call to resolution

- Escalate the calls, if necessary
- Generate call reports using monitoring solution/tool
- Monitoring shift logs and ensuring proper information flow between shift-in-charge
- Analyze the call statistics
- Create knowledge base on FAQ to aid users and help in further resolution
- Daily - Pending calls report, Spares status report, Network status report, Backup report, Virus control report.
- Weekly - Call type report, Downtime report, Call trend report, Application, Network calls report, Backup drill report, Pending activities report, Install, Move, Addition, & Change (IMAC) report, detailed spares status report.
- Monthly – Measurement metrics report

b) Asset Management Service

- Create hardware asset database by recording information like configuration details, serial number, and asset code of the supplied hardware.
- Create software inventory with information such as license, version numbers and registration details and media management.
- Record all installation of new machines, movement within site/locations, changes in configuration of machines..
- Manage and monitor software license compliance..
- Conduct periodic audits on software licenses and report findings (100% coverage of equipment) once in six months.

c) Network Management Service

1.1.1.c.1. LAN (within Primary and DR Data Centres)

- Fault Management - Detection, isolation and diagnosis of network faults and get them resolved.
- Configuration of the network and security equipment as per requirement from BCPL. This includes but not limited to creation of routing configurations, implementing Quality of Services for certain applications, compliance of BCPL security policies, VPN/AAA configurations deployed by BCPL in future.
- Network Documentation – Document network, patch panel configuration changes and maintain latest network configuration and topology diagrams, security audit compliance documentation.
- Network Performance monitoring (Statistics such as utilization levels, collisions, errors, protocols, top users etc) and tuning – Using monitoring tool.
- Inspection of all Main Distribution Frames & Intermediate Distribution Frames, on a daily basis.
- Continuously validate the security policy with BCPL and do necessary changes in configuration of Firewall and security components. The administration activity of the security products need to be done periodically.
- Taking periodic backup of network and security equipments and safe-keeping of same

1.1.1.c.2. WAN / VPN

- Fault Management – Detection, isolation and diagnosis of network faults including coordination with Vendors related to WAN connectivity and get them resolved.
- Coordination & support to VPN users regarding installation, configuration of VPN software and VPN connectivity issues.
- Resolve issues in access of SAP through WAN networking equipment
- Network Documentation – Document network, latest Network Diagram, WAN configuration changes and maintain latest network configuration.
- Network Performance monitoring (Statistics such as utilization levels, collisions, errors, protocols, etc) and tuning.
- Inspection of all WAN/VPN related equipment at Data Center communication room on a daily basis.

d) Hardware Maintenance

- Perform any Install, Move, Add or Change (IMAC)
- Hardware Installation & Upgrade (CPUs / Disks / Memory / Network cards / HBAs / etc).
- To attend to hardware problems of all the supplied hardware and resolve them by repair/replacing the spare or by providing a standby.
- Perform periodic preventive maintenance on all hardware assets supplied.

e) Server Management and OS Administration Service

- OS Installation & Upgrade
- Firmware/LDOM/virtualization Installation & Upgrade
- OS Administration
- Resolving all server/cluster related problems.
- Configuration of file and print server and resolving printing problems of users
- Orderly startup and shutdown of servers as per laid down procedures.
- User management – Creation and deletion of users, groups, Roles and authorizations
- Monitor user authentication (details of users logging in and logging out)
- Install software, patches, updates and service packs
- Security management – Configuring Account policy, Access rights, Password control
- Monitor the utilization of CPU, disk, memory and I/O parameters.
- Verify logs in event logger and periodically clean up log files
- Monitor NTP synchronization of the servers and other equipment
- Schedule and optimize the services running on the server
- Ensure all critical services are running on the server.
- Maintain list of all system files, root directories and volumes
- Take back up of the file systems.
- Reload OS in case of a crash
- Startup and Shutdown of SAP, Database, OS and other related services
- OS performance tuning
- Network OS support
- Load latest anti-virus updates on the server

- Capacity monitoring and planning
- Carry out vaccination in case of anticipated virus breakouts.
- Supporting IIS applications
- Creating emergency repair disk and periodic update of the same.
- Installation of new server operating system along with RAID as per BCPL's requirement.
- Offsite tape movement monitoring.
- Print and File server management
- Compliance of various ISO formats when implemented.
- Maintain the change management of the systems
- Monitoring the various security related parameters
- Escalating unresolved problems to ensure resolution as per the agreed SLAs.
- Monitoring the archive logs gap with the primary site
- Complete monitoring of Data Replication between
 - Primary - DR

f) Virus/Malware/Spyware Control Service

- Regular monitoring of update of antivirus signatures on all relevant servers.
- Diagnose and rectify any virus/malware/spyware problems which can be fixed by the antivirus tool.
- Provide feedback to BCPL on any new viruses detected.
- Carry out vaccination on the servers in case of anticipated virus breakouts by installing the relevant patches, definitions, etc.

g) Backup and Restore Service

- Perform regular backup operations as per BCPL's policy for all the supplied servers and check the backup logs.
- Backup Software Management
- Proper Labelling and housing of media for identification and retrieval
- Ensure proper storage and handling of tapes to prevent data loss.
- Auditing backup data & library
- Collate backup reports
- Maintain log sheets of backup taken.
- Keep the records of free and used media
- Status Updates and Report creation / Escalation
- Responsible for Off-Site backup Tape Movement as per the procedure decided by BCPL.
- Maintain Tape inventory and recommend for replenishing it after its lifetime.
- Analysis of logs related to backup performance
- Maintain the records of failed backup
- Monitor the I/O utilization of various file systems
- Creation and modification in the backup/replication scripts as when required

h) Database Management Service (For Oracle Database in SAP Systems)

Activities that needs to be performed on a regular basis:

- Analyzing trace files and alert log files.
- Starting and Stopping the database instance (if required).
- Changing passwords as per BCPL's policy.
- Monitoring the availability of tablespaces and data files.
- Monitoring the availability of free space and space utilization.
- Checking for fragmentation in the tablespace as a whole and checking for fragmentation at the file level.
- Configure and regularly monitor database Cost Based Optimization (CBO).
- Monitoring the growth of objects and the distribution of extents.
- Checking for Database fragmentation and rebuilding / reorganizing it accordingly.
- Creating, Configuring and Monitoring rollback/undo segments.
- Configuring Database performance tuning and Database Audit trail
- Performance Statistics have to be collected at different times (ex: less-activity, peak-activity) etc. and then based on the results any (or all) of the following needs to be done within SAP's guidelines:
 - Identifying resource hungry and expensive SQL statements and advising development team on tuning these with the SAP's framework.
 - Trouble shooting of various ABAP/Java stack instance, its performance tuning and problem resolution
 - Understanding, Detecting and solving Memory Allocation Issues
 - Fitting the System Global Area into Main Memory
 - Allocating Adequate Memory to Individual Users
 - Tuning the Redo Log Buffer, Private SQL and PI/SQL areas.
 - Tuning the Shared Pool, Library Cache, Row cache and Large Pool
 - Tuning Reserved Space from the Shared Pool
 - Enabling, sizing and optimizing the use of Multiple Buffer Pools
 - Identifying and Eliminating LRU Latch Contention
 - Tuning Sort Areas
 - Reallocating Memory
 - Reducing Total Memory Usage.
- Understanding, Detecting and resolving I/O problems by constantly monitoring.
- Analyzing the objects at regular interval.
- Identify opportunities to increase the performance of the batch programs.
- Changing parameter file appropriately.
- Managing database objects.
- Monthly Database uptime & performance report
- Any other report as per BCPL's standards & requirements.
- Setting up and managing Standby database for various SAP Components.
- Administration and monitoring of other Oracle installed in existing SAP landscape during the contract period.
- Administration and Monitoring of SAP Content server if installed.
- Configuration, administration, monitoring of database mirror /replication so that replication works fine.

- Compliance of SAP EarlyWatch alerts/reports, Go-live Reports, End-to-End Analysis, CCMS monitoring, Maintenance Optimizer report. Replicating all primary site configurations to DR site

Activities that need to be done under emergency situations:

- Identifying and resolving database corruption issues/block corruption issue.
- Recovering the database.
- Relocating data files, log files and control files during hardware failure.
- Resolving any other technical / database issue that is a showstopper.
- Switching between various SAP Components from primary site to disaster recovery site as per RPO & RTO defined in the tender document.
- In case the FMS team available at site for various domains is unable to resolve the problem timely, Vendor shall have provision of assisting the team either through expert support remotely or by deputing the experts on site or bringing experts from OEM at his own cost, so that services are BCPL not hampered w.r.t. non availability as well as performance related issues.

Activities that need to be performed based on request:

- Database upgrade / patch application as and when required by BCPL.
- Allocating system storage and planning for future storage requirements for the database systems as per various SAP application requirements operational at BCPL.
- Monitoring and optimizing the performance of the database as per SAP's guidelines.
- Synchronizing Development/Quality Assurance/Training database with Production data and disaster recovery setup for various SAP Components implemented at BCPL.
- Increasing the performance of the application (based on user input) and tune it accordingly

i) Storage Area Network Service

- Storage Parameter tuning
- Regular performance tuning
- RAID rebuilding as and when required
- Point-in-time copy setup and regular monitoring
- Allocating system storage and planning for future storage/disk requirements for the database systems as per SAP applications requirements
- Monitoring and analyzing any I/O bottlenecks
- Creation , Publishing and Mounting of LUNs on the respective servers
- Monitoring of SAN switches
- Configuration related to zoning in the SAN switches

j) SAP System Administration Service

Activities need to be done on daily basis:

- Check that all SAP servers are up.
- Monitoring the Cluster for various SAP Systems

- Check that daily backups executed without errors and take corrective actions in case of errors.
- Check the CCMS alert monitor.
- Check work processes.
- Check DB13 related jobs.
- Look for any failed updates (update terminates).
- Check System Log.
- Review for cancelled and critical jobs.
- Check for “old” locks
- Check users on system
- Check for spool problems
- Check job log
- Review and resolve dumps.
- Review workload statistics.
- Review buffer statistics.
- Review error log for problems.
- Troubleshooting:
 - Analyze all the errors in each log
 - Eliminate each error by taking the required action
 - Document each of the action
 - Evaluate the results
 - Getting the result certified with the user
- Monitoring the efficiency of user-written programs and advising on improving the efficiency.
- Creating and changing users, roles creation, Preparing and attaching authorizations to users as and when required.
- Managing Various SAP instance operational in BCPL.
- Managing SAP OSS setup
- Managing SAP Exchange Connector
- Setting up and monitoring replication between SAP systems across primary and DR sites.

Activities to be performed weekly:

- Monitor database free space.
- Monitor database growth.
- Checking spool for problems and that spool are properly cleared.
- Check file-system for adequate space.
- Monitor systems for update.
- Monitor alert mechanisms.
- Clean tape drives.

Activities to be performed monthly:

- Plotting database growth
- Taking Backup of file server.
- Review file system usage

- Checking consumable supplies
- Archiving quarterly backup
- Review security as per BCPL's policy.
- Review scheduled jobs (Review all scheduled jobs to determine if they are still appropriate.)
- Archiving old transport files (Transport directories; log, data, cofiles)
- Cleanup of SAPDBA logs
- Offsite backup management as directed by BCPL shall be responsibility of Bidder.

Special Tasks:

- Changing System profile parameters, if required
- Applying Support packages / Add on Packages/ Enhancement Packages
- Kernel Upgrade
- Maintaining Clients
- Copying Clients with in the Same System
- Transporting Clients between systems
- Transporting Requests from Development to QA/Production/Training systems as per BCPL's policy
- Deleting Clients as and when required by BCPL
- Generating and complying with SAP Earlywatch report, Go-live report, Service Optimization Report, Security Optimization Report etc.
- Locking and Unlocking Users during system activities.
- Database Patch / Release update/upgrade.

The monitoring is not restricted to the above list, the service engineer is supposed to monitor any other activity required for smooth operation of SAP systems and take corrective actions in case of problems encountered on any of the monitoring activities.

k) Resource Monitoring and Sharing Service

In case of consolidated server partitioned to provide multiple application servers, the service engineer is expected to:

- Monitor and Analyze Resource Allocation to each partition
- Reallocate resources between partitions as and when required
- Maintain resource utilization statistics

l) Environment and Core Infrastructure Monitoring Service

- Define thresholds for environmental conditions like temperature, humidity, power supply etc.
- Regular monitoring against threshold limits.
- Co-ordination with respective departments for periodic calibration of environment condition measuring equipment
- Co-ordination with respective departments for Fire prevention and dust control. Dust control within and outside the racks and equipment.

- Refer the problem to the competent designated person/ service provider/ vendor.
- Track and follow-up the problem with designated person/ service provider till the problem is solved.
- Monitor environment conditions and taking preventive and corrective actions.
- Monitor the access control system. Prepare reports of user-wise access to the server room.
- Maintain inventory of the access cards in case of BMS system in place.

m) Disaster Recovery Service

- Switching to DR Site completely or partially for testing at intervals to be decided by BCPL.
- Continuous monitoring and assessment of infrastructure for DR solution to ensure smoothness and completeness of on-going operations.
- Hot Fix/Patch upgrade for the software required for data replication used in DR solution.
- Monitoring and enabling of transfer of data to the DR site on on-going basis. Further, as per the requirements, the activity should be done for transferring of data from DR site to Primary site and vice-versa.
- Generation of all necessary log reports including the hardware resources utilization report, identification of performance bottlenecks, for capacity monitoring etc.
- Keeping the DR system configurations and parameters in sync with primary site

n) Documentation

The documentation required for all installation, configuration, security, monitoring procedures, system manuals, network, SAN, storage, tape-library operations, DR switch-over procedure, replication monitoring, troubleshooting etc shall be prepared by the Bidder in the beginning and keep them updated time-to-time during the warranty period. The documents must be comprehensive and should address all functional areas of the items supplied by the Bidder and their operations. The documents should not be copy-paste of OEM manuals but should specifically address the requirements of BCPL infrastructure. The documents shall be maintained in soft as well as hard copies.

l) SERVICE LEVEL AGREEMENT (SLAs)

The following set of Service Level Agreements (SLA) is defined for the supplied solution during the Warranty period. These Service levels are defined as the minimum requirement.

These SLAs are associated with Non-performance Deductions clause to have desired uptime availability and delivery of service to BCPL. The vendor will maintain logs for each of the service provided and shall provide necessary reports which help ascertaining the service levels and calculation of Non-performance Deductions.

Definitions:

Severity Level 1:

When no IT service hosted in the data centre is available to the users due to failure of any VM / Host / Application / Hardware / Software / Data Centre equipment supplied / maintained by the bidder.

Severity Level 2:

When any of the critical applications (SAP Production, E-mail, AD, Web Content filtering) hosted in the data centre is not available to the users due to failure of any VM / Host / Application / Hardware / Software / Data Centre equipment supplied / maintained by the bidder.

Severity Level 3:

When any other application / services other than critical applications hosted in the data center is not available to the users due to failure of any VM / Host / Application / Hardware / Software / Data Centre equipment supplied / maintained by the bidder.

Severity Level 4:

When Backup / restoration / replication / call center services is failed due to failure of any VM / Host / Application / Hardware / Software / Data Centre equipment supplied / maintained by the bidder.

Severity Level 5:

When any component / equipment failed not affecting any service.

Resolution Time:

Represents the period of time from the problem occurrence to the time in which the root cause of the problem is removed and a permanent fix has been applied to avoid problem reoccurrence.

Recovery Time:

Represents the period of time from the problem occurrence to the time in which the service returns to operational status. This may include temporary problem circumvention / workaround and does not necessarily include root cause removal.

Response Time:

Represents the period of time from the problem occurrence to the time when the problem is first attended by the Bidder's engineer.

Planned/Scheduled Downtime:

Planned/Scheduled downtime shall be mutually decided by the bidder.

Service Delivery:

Severity	Response Time	Recovery Time	Resolution Time
Severity 1	5 Mins	2 hours	2 day
Severity 2	15 Mins	4 Hours	4 days
Severity 3	30 Mins	6 Hours	6 days

Severity 4	1 hours	1 day	10 days
Severity 5	2 hours	4 days	15 days

Each incidence shall be categorised under any one of the above Severities in the order of the Severity number depending upon the impact of the incidence. Non-performance deduction of each incidence shall be computed as per following:

Non-Performance Deductions (Service Delivery) [NPD-1]:

S N	Type of Non-Performance	Severity 1	Severity 2	Severity 3	Severity 4	Severity 5
i	Delay in response time beyond service delivery period (in the multiples of 1 hour)	0.002% of the total order value per hour	0.001% of the total order value per hour	0.0005% of the total order value per hour	0.0002% of the total order value per hour	0.0001% of the total order value per hour
ii	Delay in recovery time beyond service delivery period (in the multiples of 1 hour)	0.003% of the total order value per hour	0.0015% of the total order value per hour	0.0008% of the total order value per hour	0.0004% of the total order value per hour	0.0002% of the total order value per hour
iii	Delay in resolution time beyond service delivery period (in the multiples of 4 hour)	0.004% of the total order value per hour	0.002% of the total order value per hour	0.001% of the total order value per hour	0.0006% of the total order value per hour	0.0003% of the total order value per hour

At any point of time, application can be operational at either of the SITE(s). The applicable penalty for DR SYSTEM(s) shall be 50% of the penalty as calculated above.

Non-Performance Deductions (Others) [NPD-2]:

Non availability of Support Engineer	In case Bidder's personnel/ engineers do not come for support and no substitute is provided	- The payment for that day for such personnel/engineer shall not be made on the principle of no-work no-payment on the pro-rata basis.(Total support cost per day divided by nos. of persons deployed) - Further deduction Rs.500/- per day per engineer/shall also be made due to loss of utility/service - In case the substitute is not meeting the desired qualification, deduction Rs.200/- per day per engineer/shall also be made.
Data lag beyond 30 minutes	Data lag because of non working of proposed replication using the tool supplied by the bidder	Rs.1000/- per instance

RPO	Non compliance to RPO during mock drill as well as actual disaster	Rs. 1000/- per minute for delay beyond specified RPO.
RTO	Non compliance to RTO during mock drill as well as actual disaster	Rs. 5,000/- per hour for delay beyond specified RTO.
RTO during Fail back	Non compliance to RTO during fail back to primary	Rs. 5,000/- per hour for delay beyond specified RTO.

The penalties against non-compliance of RPO, RTO, Data lag and Non availability of support personnel shall not be having any capping and the same shall be adjusted against current & future invoices pertaining to support charges and the rest, if any, from CPBG.

Downtime Calculation:

The recording of downtime shall commence at the time of registering the call with Vendor or Service Provider for any downtime situation for the equipment. Downtime shall end when the problem is rectified and the application/ service is available to the user.

Down time will not be considered for following:

1. Pre-scheduled preventive maintenance and health checks (Scheduled Downtime).
2. Failover time (15 minutes) in case of cluster environment. Beyond which the service would be considered to be not available and appropriate Non-performance Deductions shall be imposed on the vendor.

If BCPL elects to continue the operation of the machine / equipment, when a part of the machine is giving problem and leading to downtime, the commencement of downtime shall be deferred until BCPL releases the machine / equipment to the Bidder for remedial action.

Payment of Charges for System Support Services:

a. Total Non-Performance Deductions (Service Delivery) [NPD-1] for a quarter shall be the aggregate of the Non-performance deduction of each individual incident reported / resolved during the quarter. Total Non-Performance Deductions (Service Delivery) [NPD-1] for a quarter shall not exceed [{5 % of total Work Order value} / 12].

b. Total Non-Performance Deductions (Others) [NPD-2] for the quarter against non-compliance of RPO, RTO, Data lag and Non-availability of FMS personnel shall not be having any capping and the same shall be adjusted against current & future invoices pertaining to FMS & Support charges against this work order and the rest, if any, from CPBG.

c. Total Quarterly Non-performance Deduction [NPD] = [NPD-1] + [NPD-2]

Total Payment for the quarter during FMS period =

Quarterly FMS Charges - Total Quarterly Non-performance Deduction [NPD]

If the non-performance deduction in any quarter is more than the Quarterly FMS charges, the balance amount shall be adjusted in next Quarterly FMS charges. The unadjusted accumulated penalty at the end of FMS period, if any, shall be deducted from CPBG (Contract Performance Bank Guarantee).

The detail of incidents along with applicable non-performance for the quarter shall be provided by the bidder along with quarterly invoice and the same shall be certified by EIC before releasing the payment.

- m) The SUPPLIER shall carry out Preventive Maintenance of the total solution quarterly during the warranty period to check for the adequacy, fine-tuning, health check, policy inspection and better utilization of the system.
- n) If any CD-ROM/diskette/document/manual supplied by the Supplier is found to be inadequate / incomplete within the warranty period of the contract, the supplier shall replace such CD-ROM/Diskette/documents/manual at his own cost within 15 days time.
- o) SUPPLIER shall warrant the CD-ROM, Diskettes or any other media is free of defects in material and workmanship under normal case for 90 days from the 'Taking Over' date. During this period, BCPL may return defective media to the supplier and it will be replaced free of cost.
- p) The end of life (EOL)/ end of support (EOS) items should not be quoted.

COMPREHENSIVE WARRANTY

All the items supplied to BCPL shall be covered under Comprehensive Onsite Warranty for a period of three years.

Comprehensive Warranty shall cover repairs and replacements necessary to keep the equipments in good working order on reasonable use of the equipments during the warranty period.

Bidder shall provide support on supplied version of all the software products and shall supply the software updates released during the Warranty period (Software updates shall include security patches, firmware upgrade, hotfixes). Also, all the security patches/service packs releases for the supplied product shall be supplied and configured in BCPL setup during the warranty period.

Proactive E-Mails are to be sent to the authorized administrators about the latest happenings related to BCPL setup.

Management Reports:

Both BCPL and Contractor shall agree on the reports and formats and its periodicity. Management reports will be required to reflect metric reporting against all service levels contained in the contract, plus reports of a general management nature to allow BCPL to oversee the delivery of service. At a minimum, some of these include-

- Weekly status reports
- Root cause analysis reports for all SLAs and critical service failures and any other major problems.

Root Cause Analysis:

Bidder will be required to provide root cause analyses for all performance and availability problems that occur. Formal root cause analysis will be delivered within 5 days of problem occurrence, including-

- Explanation of the root cause
- Actions taken to resolve the problem
- Action plan to prevent reoccurrence, with project plan/tasks required and timing for each major milestone of the correction effort, and identification of BCPL's responsibilities in the correction process.

9.0 PAYMENT TERMS

The total price shall be for the complete scope as per technical specifications, inclusive of comprehensive on-site maintenance including repair/replacement of parts during the warranty period, insurance, any other incidental charges etc, all taxes & duties except Service tax and BCPL shall not pay any other charges against this order except the total order value. On submission of CPBG, payment shall be made to the party as per following:

For (Sub Total A + Sub Total B + Sub Total C + Sub Total D) of SOR [SP01]

- 70% payment will be made after delivery of all the items at respective site(s)
- 20% payment will be made after successful Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation) & acceptance at site(s) by BCPL.
- 10% payment will be made after adjustment of applicable LD, if any, on successful operation of complete setup including SAP production application for three months and completion of documentation & training.

For (Sub Total E) of SOR [SP02]

- 90% payment will be made after successful completion of data centre construction, testing, commissioning & acceptance by BCPL

- 10% payment will be made after adjustment of applicable LD, if any, on successful operation for three months and completion of documentation & training.

For (Sub Total F) of SOR [PART –F of SP03]

- 7% payment will be made after completion of “Project Preparation” Mile-Stone certified by BCPL
- 18% payment will be made after completion of “Business Blueprint” Mile-Stone certified by BCPL
- 33% payment will be made after completion of “Realization” Mile-Stone certified by BCPL
- 16% payment will be made after completion of “Final Preparation and Go-live” Mile-Stone certified by BCPL
- 16% payment will be made after completion of “Post Go-live Stabilization support” Mile-Stone certified by BCPL
- 10% payment will be made after adjustment of applicable LD, if any, on final sign-off and completion of documentation & training.

For (Sub Total G) of SOR [PART –G of SP03]

- 90% payment will be made after successful Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation) & acceptance at site(s) by BCPL
- 10% payment will be made after adjustment of applicable LD, if any, on successful operation of complete setup including SAP production application for three months and completion of documentation & training.

For (Sub Total H) of SOR [SP04]

- Payment will be made on quarterly basis after completion of each quarter and submission of invoice(s) in triplicate to BCPL’s Engineer-in-Charge after successful completion of services as per scope of work considering various SLAs and terms and conditions of the tender document and certification by BCPL Engineer-in-Charge.
- The detail of deductions towards non-compliance of the SLAs, if any, shall be submitted accordingly by the party along with quarterly invoice.

The payments against party bills at all stages will attract applicable statutory deductions like TDS, IT etc.

The payments are subject to bidder having furnished the contract performance bank guarantee for 10% of the contract amount, within 30 days of receipt of notification of award of contract from OWNER, as per Clause mentioned in GCC.

All bank charges of Seller's bankers shall be to the Seller's accounts.

All payments shall be released within 15 days after receipt of relevant documents complete in all respects. However, payment through bank shall be released as per normal banking rules.

No interest charges for delay in payment, if any, shall be borne by Owner.

Note: Implementation Partner shall ensure that all the deliverables covered in the milestones shall be submitted for making payment. The Stage Payment shall be released based on the deliverables of relevant milestones as approved and certified by Project Manager of BCPL.

10.0 TRAINING

The Bidder shall be required to provide training as detailed below for BCPL engineers as per OEM standards at OEMs/ Authorized training facility in India:

Module 1: Training on Virtualization Software. (4 BCPL engineers for 2 days)

Module 2: Training on Storage and SAN, covering configuration, system architecture, trouble shooting, management, replication, Backup and disaster recovery solution at OEM authorized training center. (4 BCPL engineers for 2 days)

Module 3: Training on Microsoft Exchange, AD, DHCP, DNS supplied as part of the solution. (4 BCPL engineers for 2 days)

Module 4: Training on supplied Operation System as part of the solution. (4 BCPL engineers for 2 days)

Module 5: Training on Networking and Security as part of the solution. (4 BCPL engineers for 2 days)

The Training need to be conducted by the trained and certified faculty so as to help BCPL for smooth operation of the system. OEM Training material shall be provided for each trainee.

11.0 ACCEPTANCE PROTOCOL FOR SYSTEM(S)

(To be signed by BCPL & Bidder after completion of 3 days of completion of the jobs)

P.O. No. _____ P.O. date ____/____/____ P.O. Value Rs. _____
Bidder _____

Purchase Order Description _____

Coordinator (From BCPL) Date of total system acceptance ____/____/____

Total No. of Systems Supplied:_____ Accepted:_____ Out of :_____ Balance:_____

S.No.	CONFIGURATION	ACCEPTED	QUANTITY
1	Total solution • Hardware • Software media • Software licenses • Software updates	YES / NO	

The System(s) is / are complete in all respects and accepted by BCPL and the Zero date of the contract starts w.e.f. from____/____/____ and shall be up to ____/____/____as per the terms of the W.O.

BCPL

Signature

Name

Emp No.

Tel No.....

Date.....

Bidder

Signature

Name

Date

Company Seal

12.0 INSTRUCTIONS TO THE SUPPLIERS

- Supplier shall offer only single Technical Solution to meet the specifications and scope of work as per the tender document. The supplier should provide necessary documentary evidence supporting the technical specifications of the offered solution.
- Supplier shall submit OEM Specification/Literature for quoted software & hardware.
- All the supplied licenses shall be perpetual in nature and in the name of BCPL.
- All supplied equipment and solution should be IPv4 and IPv6 Compliant.
- Bidder has to do all configuration related to IPV6 during contract period for meeting Government guideline.
- The IP address scheme for the entire solution shall be designed and implemented by the bidder as per the requirement of BCPL.
- At all times the bidder will comply with all security regulations in effect that BCPL requires at its premises or in the protection of its IT/data assets.

- Documentation should cover each & every item including Hardware installation, software configurations. The supplier shall handover two copies of complete documentation covering installation and each aspect of equipment & system in hardcopy & softcopy.
- All necessary tools and accessories required to complete the scope of work as per tender document is in the scope of the supplier. The requirement with respect to input power source for the proposed UPS and data centre equipment's shall be provided by BCPL. However, bidder has to make all arrangement for taping and distribution as per the need of the Data center and supplied solution. All required electrical panels, cabling, routing, conduiting, termination, labelling, earthing etc. shall be carried out by the bidder at no extra cost to BCPL.
- SUPPLIERS are required to submit their response separately in both the priced and the un-priced Bids. In the un-priced Bid 'Price' column is to be left blank but with an indication whether the item has been quoted Yes (Y) OR No (N) in the Priced Bid.
- SUPPLIER has to indicate the Make/Model of the offered items which have been offered out of the Makes & Models as indicated by BCPL. The SUPPLIER also has to indicate the technical details as compared with the specifications given under the 'Remarks' column.
- Vendors must quote their technical and price bids strictly as per the Schedule of Rates (SOR) only. Any modification to this SOR shall be liable for the cancellation of the bid.
- SUPPLIER may offer additionally higher quality range of models of SYSTEM(S). They should furnish technical details of the offered system(s) and highlight why these products are considered superior to the range of products as mentioned under '**Item Details**' column.
- Bidder shall offer most suited single Technical Solution to meet the functional requirement as envisaged and further detailed under specification and scope of work and shall comprehensively address various clauses as per the tender document.
- In order to establish the claims made by the bidder, they are required to submit the documentary evidences / references which are must for evaluation of his bid in a transparent manner. Bidder should necessarily provide the documentary evidences supporting the technical specifications of the offered solution, as asked in various places in this document. Failing to submit the requisite documents may lead to summarily reject the bid and BCPL do not intend to provide any second chance.
- Bidder shall specify the availability of support staff and infrastructure of the manufacturer & partner (if applicable) in India (details to be provided by the bidder in the offer).

Since solution is highly complicated and is based on proprietary technology, software which requires special certified trained professionals to carry out this job with minimum hindrance to the production system, bidder is expected to have all such relevant expertise, duly certified by OEM of hardware and software of the OEMs and it is assumed that while submitting of this bid, that he is going to

utilize those specialized engineers as and when required and bidder shall arrange to block those engineers as per the arena.

- Bidder scope of work shall include providing of suitable furniture, mounting fixtures, any other hardware accessories for suitable installation of the supplied hardware.
- All the expenditure for boarding, lodging, travelling, transport of material to BCPL Site and its installation shall be in the bidder's scope of supply and included in bidder's quoted price.
- Within one week after receipt of LOI/LOA, Bidder has to submit the detailed project schedule with proper timelines and resource deployment. The same shall also cover the requirement from BCPL side.
- Any document required to be approved by BCPL during the execution of the project has to be submitted at least 2 weeks in advance.
- Any changes that are needed to be carried out in the existing setup shall be in consultation and approval from BCPL. The same shall be informed in advance so as to plan the down time / impact to the end users.
- Bidder shall submit OEM Specification/Literature for quoted Hardware at the time of bidding.
- Bidder shall furnish documentary proof of OEM support (back to back with OEM vendor of all supplied equipments) for the entire contract period. Vendor should also furnish documentary proof of the entire software licenses required for the production environment.
- Bidder has to indicate the Make/Model of the offered items. The BIDDER also has to indicate the technical details, as compared with the specifications given under the 'Item Details' column. The technical literature of all the offered items has to be provided by the bidder along with the bid.
- The equipments supplied by the bidder can be re-used or additional hardware / software / application can be loaded as per the requirement of BCPL. Bidder shall co-operate in carrying out required configuration change in the equipments and the warranty of the equipment shall be continued.
- All the hardware equipment supplied in this order shall be supplied with the associated OEM rack mounting kits.
- The entire solution proposed is to be certified by OEM server vendor and OEM storage vendor and the same is to be furnished by bidder along with the bid document.
- Bidder shall specify the availability of support staff and infrastructure of the manufacturer & partner (if applicable) in India (details to be provided by the bidder in the offer). Since solution is highly complicated and is based on proprietary technology, software which requires special certified trained professionals to carry out this job with minimum hindrance to the production system, bidder is expected to have all such relevant expertise, duly certified by OEM of hardware and software of the OEMs and it is assumed that while submitting of this bid, that he is going to utilize those specialized

engineers as and when required and bidder shall arrange those engineers as per the area during the warranty Period.

- Bidder shall identify the equipment-wise critical spares for all the equipment under warranty and submit the list of critical spares the Bidder is planning to stock at BCPL premises at each site to meet the SLA. BCPL may review the stock recommendation and suggest improvement.
- All the expenditure for boarding, lodging, travelling, transport of material to BCPL Site and any tool and tackles etc shall be in the bidder's scope to meet the scope of work of warranty and FMS Services.
- Bidder has to submit the detailed FMS Resources & their deployment plan, deploy resources. Warranty / FMS start date will start as mentioned in the fax of intent and bidder should ensure that OEM back lining of the hardware for the entire period of warranty.
- Any changes that are needed to be carried out in the existing setup shall be in consultation and approval from BCPL. The same shall be informed in advance so as to plan the down time / impact to the end users.
- Bidder shall furnish documentary proof of OEM support (back-to-back with OEM vendors of hardware/software) for all Items covered under warranty for the contract period. In case any item has been declared End-of-Support by the OEM (Documentary proof in support of the same to be furnished), back-to-back OEM support may not be required for those items. However, bidder has to extend warranty support of such items by their own arrangement or bidder can replace those items with items of equivalent specification/configuration of same make.
- At the time of end of contract, bidder has to rectify all the pending problems and hand over the systems to the new service provider. In case of any pending problem at the end of contract period, the same has to be rectified by the bidder in totality prior to submission of final bill.
- In case of requirement of Road Permit for supply of equipments / components at BCPL locations, the same needs to be arranged by the bidder. All the necessary expenses including taxes (if any) for delivery of equipment / components have to be borne by the bidder.
- The services for any SOR line item can be extended with same terms and conditions with prior intimation of three months. The payment for the additional service period shall be made on pro-rata basis. However, amount of additional service shall not be more than 25% of the contract value.
- Bidder has to renew licenses and subscription of various systems e.g. Server Certificate, subscription of Antivirus and other security appliances etc. that are getting expired during the warranty /FMS period if required.
- The bidder must note that for the backup server, the filesystems to be mounted on backup server for backup should use OEM supported/supplied technology and not a free-ware technology. Thus, the compatibility of backup server with other servers and equipments must be ensured in all possible details by the Bidder.

INSTRUCTIONS FOR QUOTATION

- Price will be applicable only for items mentioned in the Bill of Material. All the associated activities for hardware, software, licenses, monitoring infrastructure, consumables, knowledge sharing sessions, third party audit, resident engineer, training, support provided by the bidder from their back office team/OEM team and any other work mentioned in the tender document etc. has to be carried under the same Bill of Material without any additional cost implication to BCPL.
- In case Bidder is not able to rectify the problem in any hardware and associated software, bidder needs to replace the same with similar/higher compatible configuration system and carry out configuration as per BCPL requirement. OEM back lining support for the remaining contract period needs to be taken by the bidder.
- If required, the bidder may visit the SITE(s) to understand the current setup.
- **Evaluation of the bids shall be carried out on the complete solution comprising of all components of the tender document. Order will be placed to the techno-commercially successful bidder quoting the lowest price for the complete solution.**

OEMs for different Hardware/Software

Virtualization S/W	-	VMWare / Microsoft Hyper-V
Servers	-	Oracle / Dell / HP / IBM / Lenovo/ Cisco
Storage	-	Oracle / Dell / HP / IBM / Lenovo / Hitachi / EMC / NetApp
Tape Library	-	Oracle / Dell / HP / IBM / Lenovo / Hitachi / Quantum / Tandberg

13.0 LIST OF MEDIA / DOCUMENTS SUPPLIED

PLEASE GIVE LIST & TITLE OF MEDIA AND DOCUMENTATION WHICH WOULD BE SUPPLIED ALONG WITH EACH TYPE OF SYSTEM(S) (PLEASE USE SEPARATE SHEETS FOR EACH TYPE OF SYSTEM)

MEDIA

DOCUMENTATION

WITH HARDWARE

WITH OPERATING SYSTEM

OTHER SOFTWARE MODULE

(For each Software Module)

Item Specifications

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
A.1	Routers Port Requirements Min 4 x Autosensing 10/100/1000 Gigabit Ethernet routed ports 2 x E1 – G.703 Ports All WAN Interfaces to be provided with relevant interface cables. • Should have 4 WAN Interface Slots. • Should have minimum 1 GB of DRAM • Should have minimum 512 MB Flash • The Router shall be capable of handling min 75 Mbps aggregated bandwidth of all interfaces • The Router shall have NAT+QoS+ACL performance of min 70 Mbps (IMIX traffic). • IPV4, IPV6 Compliant from Day One • Should support IPSec VPN, SSH, OSPF, BGP, MPLS, routing protocols and Licenses for these routing protocols for IPV4 & IPV6 should be provided and protocols for IPV4 & IPV6 should be available for use from day one. • IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. • Should support SNMP protocol for management. Rack Mounting OEM Rack Mounting Kit	No.	8			
A.2	Link Aggregators / Load-Balancers Make/Model – F5 Networks / Citrix Systems / Radware / Riverbed Min. 6 No.s of 10/100/1000 Ethernet Ports	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Min. 1 Gbps throughput Rack Mountable – OEM Rack mounting kit to be provided. Bandwidth Management License to be provided from Day one Appliances shall be configured in High-Availability mode at Primary & DR Site IPV6 & IPV4 Compliant from Day one. Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. All required Licenses & subscription for all components including software components installed on appliance shall perpetual in nature. System should support all below mentioned configuration capabilities from day one out-of-the-box with no additional scripting etc. Link Load-Balancing System should support active-active, active-backup link load balancing of multiple links minimum 4 Internet links. System should support load balancing the following wire line link types like ADSL, Fiber, Ethernet, RF etc. System should support switching between active and failed links, while guaranteeing 100% of active connections will remain active. System should support following load balancing modes between the ISP links.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	- Least Amount of Traffic - Round robin (Cyclic) - Least number of Bytes - Least number of Users - Response Time System should support users to configure NAT addresses which are identical to system's IP interfaces. Network Address Translation System should support performing NAT using a single IP address for a range of internal hosts/users when accessing the WAN/Internet. System should support performing NAT using a range of NAT IP addresses for a range of internal hosts/users when accessing the WAN/Internet. System should support performing translating and internal host IP address and Port to public IP address and port. (i.e. PAT). Selection of NAT address must be done based on load balancing decisions (router health, load, traffic type etc). DNS Support System should support operating as an authoritative DNS server in standalone as well as cluster/HA configuration. System should support resolving External host names to internal IP addresses, External (NAT) IP addresses. System should support responding various DNS query types like Host Record, A Record, MX record etc. Should support Name to IP resolution based on					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	load balancing decisions (router health, load, traffic type, etc). Performance-based Routing System should support dynamically redirecting traffic via the best performing link. System Health Monitoring System should support monitoring health of both load balanced and remote (not load balanced) nodes. System should support TCP/UDP, ICMP (Ping) based monitors. System should support SNMP based monitors. System should support DNS based monitors. System should support Physical Port based monitors. System should support the ability to specify frequency, time-out interval for all monitors. System should support detecting the health of remote nodes within the WAN/Internet cloud and marking the load balanced nodes unavailable based on the remote nodes' health. Redundancy System should support Active/Standby Deployment with seamless failover between units in a pair. System should support user definition of whether a specific link's failure will initiate a failover. System should support configuration synchronization between Units in a pair. System should support stateful replication of all					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	sessions between units in a pair. System should support the ability to go Active upon loss of communication with the peer unit. Routing Protocols System should support OSPF, RIP v1&2 and the same should be available for use from day one. Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. Networking / QOS / Bandwidth Management System should support integrating into an existing network without IP routing modifications. For legitimate traffic the device must act like a wire or a switch. System should support the configuration of multiple IP addresses on the same physical interface System should support link aggregation. System should support setting a priority for each type of traffic. System should support guaranteeing bandwidth each type of traffic. System should support limiting the maximum number of concurrent sessions of each user. System should support Dynamic borrowing of queue bandwidth. System should support Policy Based Quality of Service (QoS) and scheduling the activation/deactivation of rules. System should support application classification					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	per packet, session etc. System should support taking traffic shaping / QoS actions based on the router pool from which the traffic arrives or to which the traffic is sent. Manageability System should support providing / blocking management access on specific management protocols - SNMP, Telnet, SSH, HTTP/S System should support full device configuration using CLI, GUI System should support Read level and Read-Write Administrator privileges. System should support NTP clock synchronization protocol. System should support logging all errors locally on appliance. System should support logging of status messages using Syslog protocol. System should support sending alarms when thresholds are exceeded (traffic, disk space, memory usage, CPU usage etc). System should support an alarm for any failed hardware component or failed software process. System should support the audit of any administrative / configuration change done on the device. System should support Recovery from Compact Flash / USB.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
A.3	External Firewall with IPS Make/Model - Cisco / Juniper / Checkpoint Form Factor Rack Mountable Hardware Appliance – OEM Rack mounting kit to be provided. IPv4 & Ipv6 compliant from day one. Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. HARDWARE FEATURES a) The Firewalls should be Hardware based, Reliable, purpose-built security appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems with 8 No.s of 10/100/1000 Base Tx interfaces. b) The Appliance should be Full-featured, high-performance firewall and IP Security/Secure Sockets Layer (IPSec/SSL) VPN technologies deliver robust application security, user- and application-based access control, and remote user/site connectivity. c) Should be redundant supporting Active/Active or Active/Standby Firewall for High Availability & Scalability. d) Firewall Throughput of at least 4000 Mbps. e) IPS Throughput of at least 1000 Mbps f) VPN Throughput of at least 600 Mbps g) Concurrent Sessions of at least 5,00,000 h) New sessions /second should be at least 35000 i) IPSec VPN Peers of at least 3000 j) Web/SSL VPN Peers of at least 200 k) Support for Virtual Firewalls/ virtual router of up to 8 virtual firewalls/ routers, so that the Central site can have a individual firewalling	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	for every remote site in future. l) Virtual Interfaces (VLANs) support for at least 256 VLANs for forming Secure server Farms and DMZs m) The System Software/OS is expected to be resided on flash disk for more reliability over hard disk n) Should have the Bandwidth management feature/ traffic management/ QOS. o) Should support real world multi-protocol/ IMIX throughput of at least 2 Gbps. p) Firewall should be scalable to add additional 6 no. of 10/100/1000 interfaces q) The firewall should have redundant power supply. OTHER FEATURES Support for Secure Connectivity Services a) IPSec remote-access VPN concentrator services for up to five hundreds of simultaneous remote software- or hardware-based VPN clients b) Option to Push VPN policy dynamically to VPN Remote-enabled solutions upon connection, eliminating the need to manage each client separately and therefore helping ensure enforcement of the latest corporate VPN security policies Support for High-Availability Services a) Support for Active/Active & Active/Standby failover. b) Maximizing VPN connection uptime with Active/Standby stateful failover for VPN connections c) Support for Synchronizing all security association state information and session key material between failover pair members, providing a highly resilient VPN solution d) Access control and deep inspection firewall services for native IPv6 network					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	environments and mixed IPv4 and IPv6 network environments through dual-stack support e) IPv6-enabled inspection services for applications based on HTTP, FTP, SMTP, ICMP, TCP, and UDP f) Support for SSHv2, Telnet, HTTP and HTTPS, and ICMP-based management over IPv6/IPv4 g) DHCP server services on one or more interfaces, allowing devices to obtain IP addresses dynamically h) Support for NTPv1/2/3 to provide convenient method for synchronizing the clock on the firewall appliance with other devices on a network Support for Flexible Management Solutions a) Support for Built-in Management Software for simple, secure remote management of the security appliances through integrated, Web-based GUI b) Support for out-of-band management c) Packet Capturing for powerful troubleshooting capabilities by providing robust packet-capturing facilities on each interface d) The entire solution should have a single management console to configure, manage and maintain the equipments Certification of the product proposed a) IPv6/ USGv6 certified b) EAL4+ or equivalent common criteria (network device protection profile) certified. In case the offered product is in process of getting certified then the OEM should provide a letter of undertaking stating the same. c) Internationally accepted marked/certified like UL/CUL, CE, ISI, VCCI etc. Centralized Management solution					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	a) All the firewall should be managed from a single management console. The appliance/solution should have minimum 1x10/100/1000 interface for management ports.					
A.4	Internal Firewall with IPS Make/Model - Cisco / Juniper / Checkpoint Form Factor Rack Mountable Hardware Appliance – OEM Rack mounting kit to be provided. IPv4 & Ipv6 compliant from day one.Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. HARDWARE FEATURES a) The Firewalls should be Hardware based, Reliable, purpose-built security appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems with 8 No.s of 10/100/1000 Base Tx interfaces. b) The Appliance should be Full-featured, high-performance firewall and IP Security/Secure Sockets Layer (IPSec/SSL) VPN technologies deliver robust application security, user- and application-based access control, and remote user/site connectivity. c) Should be redundant supporting Active/Active or Active/Standby Firewall for High Availability & Scalability. d) Firewall Throughput of at least 4000 Mbps. e) IPS Throughput of at least 1000 Mbps f) VPN Throughput of at least 600 Mbps g) Concurrent Sessions of at least 5,00,000 h) New sessions /second should be at least	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	35000 i) IPSec VPN Peers of at least 3000 j) Support for Virtual Firewalls/ virtual router of up to 8 virtual firewalls/ routers, so that the Central site can have a individual firewalling for every remote site in future. k) Virtual Interfaces (VLANs) support for at least 256 VLANs for forming Secure server Farms and DMZs l) The System Software/OS is expected to be resided on flash disk for more reliability over hard disk m) Should have the Bandwidth management feature/ traffic management/ QOS. n) Should support real world multi-protocol/ IMIX throughput of at least 2 Gbps. o) Firewall should be scalable to add additional 6 no. of 10/100/1000 interfaces p) The firewall should have redundant power supply. OTHER FEATURES Support for Secure Connectivity Services a) IPSec remote-access VPN concentrator services for up to five hundreds of simultaneous remote software- or hardware-based VPN clients b) Option to Push VPN policy dynamically to VPN Remote-enabled solutions upon connection, eliminating the need to manage each client separately and therefore helping ensure enforcement of the latest corporate VPN security policies Support for High-Availability Services a) Support for Active/Active & Active/Standby failover. b) Maximizing VPN connection uptime with Active/Standby stateful failover for VPN connections c) Support for Synchronizing all security					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	association state information and session key material between failover pair members, providing a highly resilient VPN solution d) Access control and deep inspection firewall services for native IPv6 network environments and mixed IPv4 and IPv6 network environments through dual-stack support e) IPv6-enabled inspection services for applications based on HTTP, FTP, SMTP, ICMP, TCP, and UDP f) Support for SSHv2, Telnet, HTTP and HTTPS, and ICMP-based management over IPv6/IPv4 g) DHCP server services on one or more interfaces, allowing devices to obtain IP addresses dynamically h) Support for NTPv1/2/3 to provide convenient method for synchronizing the clock on the firewall appliance with other devices on a network Support for Flexible Management Solutions a) Support for Built-in Management Software for simple, secure remote management of the security appliances through integrated, Web-based GUI b) Support for out-of-band management c) Packet Capturing for powerful troubleshooting capabilities by providing robust packet-capturing facilities on each interface d) The entire solution should have a single management console to configure, manage and maintain the equipments Certification of the product proposed a) IPv6/ USGv6 certified b) EAL4+ or equivalent common criteria (network device protection profile) certified. In case the offered product is in process of getting certified then the OEM should provide					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	a letter of undertaking stating the same. c) Internationally accepted marked/certified like UL/CUL, CE, ISI, VCCI etc. Centralized Management solution a) All the firewall should be managed from a single management console. The appliance/solution should have minimum 1x10/100/1000 interface for management ports.					
A.5	L3 Switch Make and Model Please specify clearly the offered make & model and attach the technical literature. Connectors / Port Requirements Min. 48 UTP Ports - Autosensing 10/100/1000 Mbps Switch Fabric Capacity Min. 96Gbps (Full duplex) switching bandwidth Features Min. 8,000 MAC Addresses Support Min. 255 VLANs Support IPV4, IPV6 Compliant from Day One IPV6 Ready logo certified by TEC (India) - Documentary proof to be submitted. Switching services L3 switching DHCP Relay Port Aggregation Protocol 802.1Q (VLAN) Routing RIP BGP OSPF IGMP Licenses for above routing protocols for IPV4 & IPV6 should be provided and protocols for IPV4	No.	8			

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	& IPV6 should be available for use from day one. Management Web, Telnet, SNMP, Console Support for Port Mirroring & Remote Monitoring USB Port / Console File backup QOS 802.1 P (Traffic Prioritization) Security 802.1x Port based network access control Support for Private VLAN / Port Isolation or Equivalent 802.1D, Spanning-Tree Root Guard MAC address binding Rack Mounting Max 2U size OEM Rack Mounting Kit to be provided					
A.6	Edge Switch Make and Model Please specify clearly the offered make & model and attach the technical literature. Connectors / Port Requirements Min. 24 UTP Ports - Autosensing 10/100/1000 Mbps Switch Fabric capacity Min. 48 Gbps (Full duplex) switching bandwidth Features Min. 8,000 MAC Addresses Support Min. 255 VLANs Support IPV4, IPV6 Compliant from Day One IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. Switching services L2 switching DHCP Relay	No.	6			

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Port Aggregation Protocol 802.1Q (VLAN) Management Web, Telnet, SNMP, Console Support for Port Mirroring & Remote Monitoring USB Port / Console File backup QOS 802.1 P (Traffic Prioritization) Security 802.1x Port based network access control Support for Private VLAN / Port Isolation or Equivalent 802.1D, Spanning-Tree Root Guard MAC address binding Rack Mounting Max 1U size OEM Rack Mounting Kit to be provided					
A.7	Reverse Proxy Make/Model - Cisco / Blue coat Sytems / McAfee / Websense / Zscaler / Symantec / Barracuda Networks / F5 Networks / Citrix Systems / Radware / Riverbed / A10 Networks Form Factor Rack Mountable Hardware Appliance – OEM Rack mounting kit to be provided. Certified for Exchange 2013 (Documentary proof to be submitted) Should have minimum 6 x Copper Gigabit Ethernet Ports Support minimum 1,00,000 Concurrent L4 TCP connections Should provide minimum 1 Gbps throughput	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Should have minimum 400 SSL TPS/CPS Should have multi-core CPU Architecture. Should support Dynamic routing protocols like OSPF, RIP1, RIP2. Appliances shall be configured in High-Availability mode at Primary & DR Site. Bidder shall provide all the hardware & software with licenses required for enabling High-Availability feature. IPV6 & IPV4 Compliant from Day one. Any Licenses/Software (If required) for enabling the same shall be supplied along with the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. All the below mentioned features etc. should be available for use from day one. All the required Licenses & subscriptions etc. for all components including software components installed on appliance shall perpetual in nature. Proxy Features • Client Network Address Translation (Proxy IP) • Hiding the client IP address from the servers for increased security. • The solution should hide the existence and characteristics of an origin server or servers • The solution should distribute the load from incoming requests to several servers, with each server serving its own application area. • The solution should reduce load on its origin servers by caching the content/web acceleration.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Server Management Feature • Should support Graceful shutdown of Servers • Should support Graceful Activation of Servers • Should able to redirect traffic based on Source IP, Destination IP & TCP PORT Health Monitoring • Should provide individual health check for each Server & Application • Should be able to do health check on protocols like HTTP, SMTP etc. Redundancy • Should Support standard VRRP (RFC - 2338) • Should support transparent failover between 2 devices Device Management & Reporting • Should provide GUI interface for configuration & reporting • Should provide HTTP / HTTPS interface management • Should provide SSH / Telnet / CLI interface • Should support SNMP V1, V2c, V3 Support OEM of the supplied appliances should have appliance spares warehouse located in Delhi-NCR region. Note: All the necessary cables Ethernet/USB/Power (Indian Style) etc. required for making the system operational shall be provided by the bidder.					
A.8	VPN Appliance	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	- Appliance with at least 4 Nos. of 10/100/1000 UTP ports and 1 console port Features required: - Layer 3 SSL VPN - Certificate to be provided for SSL VPN by Bidder - Support IPSEC. - Should support at least 50 concurrent users in cluster. - Ensuring consistent performance throughout the rated capacity Bidder shall configure the two nos. of VPN appliance in high availability, and load balancing mode at Primary Site. If any license required for configuration of load balancing, the same shall be provided by the bidder without extra cost to BCPL. - Large-scale tunneling support provided for IPsec, L2TP/IPSec connections - Minimum VPN Throughput – 150 Mbps - Each VPN appliance should have SSL VPN feature with at least 50 nos. of concurrent user licenses - Support Full Duplex (auto-negotiation) - Connectivity options (max/idle session timeouts, automatic reconnect, logging) - Support authentication, authorization and accounting. - Management : Web, SSH, Telnet, SNMP, Console interface - Support for Multifunction LEDs, for port status, half-duplex / full duplex indications. - OEM Rack mounting kits should be provided with switch. - Support IPv4 and IPv6 features should be available for use from day one.					
A.9	AAA Appliance Appliance with Minimum CPU-2.2 GHz ,	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Minimum RAM-4 GB, Hard disk- 250GB, atleast 2 Nos. of 10/100/1000 UTP ports , 1 console port with latest Operating System. Features required: • Bidder shall carry out end-to-end Implementation of the authentication Service and integration with VPN solution offered to access SAP Servers from Internet and Intranet. • Appliance will be configured at primary site in high-availability and single at DR site. Bidder shall configure replication of user and group database and other configurations from the Primary to DR appliance and vice-versa. • Bidder shall configure the AAA server in such a way that user authentication for VPN and network/security devices will be carried out by the AAA appliance in Primary site. In case, the appliance in primary site goes down, the authentication will be carried out by the AAA appliance in DR site. • Support standard AAA protocols • Support authentication using standard external identity repositories like LDAP Server, windows Active directory etc. • Bidder shall integrate AAA appliance with Active Directory/ LDAP/ Domain Controller • Support standard Authentication protocols like PAP, MS-CHAP,EAP-MD5, PEAP,TACAS+ Etc • Support a rules-based, attribute-driven Access policy model. • Centralized management • Monitoring and troubleshooting • Should support at least 100 concurrent users. • Support Full Duplex (auto-negotiation) • Connectivity options (max/idle session timeouts, logging) • Management : Web, SSH, Telnet, SNMP, Console interface					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	- Support for Multifunction LEDs, for port status, half-duplex / full duplex indications. - OEM Rack mounting kits should be provided with switch. Support IPv4 and IPv6 features should be available for use from day one.					
B.1	Virtualization Servers Processor The server should have minimum two numbers of latest generation multi-core 64-bit x86 processors. The processor should be fully binary compatible to 32-bit applications. The offered configuration of server should meet minimum SPECInt2006_Rate Base performance of 1200 or higher. (Bidder shall submit relevant documentary proof i.e. SPECint2006_Rate Base results published on www.spec.org) Per core SAPS rating for the offered server along with supporting document to be provided by the bidder. Chipset Latest Generation Compatible Chipset Memory Min. 512 GB DDR3 or as required to achieve desired SPECInt rating whichever is higher. Offered memory should be distributed equally in minimum 2 number of memory card. Network Controller Min. eight no. of 10/100/1000 UTP Gigabit Ethernet ports for each server distributed in at least two cards (In case the ports are provided on cards other than motherboard). Same shall be configured as Teamed NIC for load-balancing and automatic failover. HDD Min. 1 TB Capacity using even number of Hot Swappable disk drives (Min. 10K FC/SAS/SAS-	No.	6			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	2). SAN Connectivity The servers will be connected to SAN storage system on a fiber channel SAN fabric. Min. four no. of 8Gbps ports for SAN connectivity distributed in at least two cards (In case the ports are provided on cards other than motherboard). These ports shall be configured with multi-path and automatic load-balancing on the server side to provide connectivity to the storage system with NSPOF. All the required hardware and software for this need to be provided by the vendor to ensure compatibility and completeness. To support multiple fiber cards multi-pathing capability and automatic load balancing at HBAs on servers, the vendor must offer this capability either through the OS or software provided / supported by the storage solution. Hardware RAID Controller Integrated Hardware RAID Controller with Min. 64 MB cache (capable of implementing RAID 0, 1). Provided HDD needs to be configured in disk-level mirror. Form Factor Max. 6U Rack mountable with OEM Rack Mounting Kit Ports Minimum 3 USB ports, 1 serial port, Required port to connect external tape drive as supplied by the bidder. Optical Drive Internal / External DVD drive					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Management Tools/Utilities Server hardware diagnostic utilities for server fault management, configuration management, threshold monitoring, etc. Redundancy Hot-plug hard drives, Hot-plug redundant power supply & fans OS & Management Microsoft® Windows Server 2012 R2 Datacenter Edition with Microsoft® System Center 2012 R2 Datacenter edition for the offered server to be supplied. (Please specify license detail with quantity.) Note: All the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational shall be provided by the bidder. BCPL can use entire configuration of the offered server. For this, any license to use the processor and RAM of the complete configuration of the server is to be provided by the bidder from day one.					
B.2	Standalone Servers Processor The server should have latest generation multi-core 64-bit x86 processors. The processor should be fully binary compatible to 32-bit applications. The offered configuration of server should meet minimum SPECInt2006_Rate Base performance of 200 or higher. (Bidder shall submit relevant documentary proof i.e. SPECint2006_Rate Base results published on www.spec.org) Per core SAPS rating for the offered server along with supporting document to be provided by the bidder.	No.	12			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Chipset Latest Generation Compatible Chipset Memory Min. 64 GB DDR3 or as required to achieve desired SPECInt rating whichever is higher. Offered memory should be distributed equally in minimum 2 number of memory card. Network Controller Min. Four no. of 10/100/1000 UTP Gigabit Ethernet ports for each server distributed in at least two cards (In case the ports are provided on cards other than motherboard). Same shall be configured as Teamed NIC for load-balancing and automatic failover. HDD Min. 2 TB Capacity using even number of Hot Swappable disk drives (Min. 10K FC/SAS/SAS-2). SAN Connectivity The servers will be connected to SAN storage system on a fiber channel SAN fabric. Min. two no. of 8Gbps ports for SAN connectivity distributed in at least two cards (In case the ports are provided on cards other than motherboard). These ports shall be configured with multi-path and automatic load-balancing on the server side to provide connectivity to the storage system with NSPOF. All the required hardware and software for this need to be provided by the vendor to ensure compatibility and completeness. To support multiple fiber cards multi-pathing capability and automatic load balancing at HBAs on servers, the vendor must offer this capability either through the OS or software provided /					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	supported by the storage solution. Hardware RAID Controller Integrated Hardware RAID Controller with Min. 64 MB cache (capable of implementing RAID 0, 1). Provided HDD needs to be configured in disk-level mirror. Form Factor Max. 2U Rack mountable with OEM Rack Mounting Kit Ports Minimum 3 USB ports, 1 serial port, Required port to connect external tape drive as supplied by the bidder. Optical Drive Internal / External DVD drive Management Tools/Utilities Server hardware diagnostic utilities for server fault management, configuration management, threshold monitoring, etc. Redundancy Hot-plug hard drives, Hot-plug redundant power supply & fans OS & Management Microsoft® Windows Server 2012 R2 Standard Edition with Microsoft® System Center 2012 R2 Standard edition for the offered server to be supplied. (Please specify license detail with quantity.) Note: All the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational shall be provided by the bidder.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	BCPL can use entire configuration of the offered server. For this, any license to use the processor and RAM of the complete configuration of the server is to be provided by the bidder from day one.					
B.3	SAN Storage Disk Capacity Min. 30TB raw capacity using FC / SAS/ SSD Disk RPM – 10K or above. Capacity of each disk should not be more than 600 GB. AND Min. 40TB raw capacity using SATA / FATA/ NLSAS / FC / SAS / SSD. Disk RPM – 7.2K or above. Capacity of each disk should not be more than 2 TB. The above capacity should be excluding the disks used / allocated for internal use of the storage. SAN Controller Specifications The Proposed SAN Array should be configured with Dual Controllers for redundancy and NSPOF. Minimum 8 x 8-Gbps FC Front End Host / FC Switch Ports. The SAN array shall be supplied with minimum of 8 x 4 Gbps FC Back-End Ports / 8 x 6Gbps SAS Back-End lanes with at least two ports in each controller for disks connectivity. SAN Controller Cache The Proposed SAN Array should be configured with minimum 32-GB cache across dual controllers with dual cache mirror interconnect paths. In case of power failure, the SAN array must be provided with cache protection mechanism to ensure no loss of data in cache (Cache De-Stage) or for minimum 48 hrs.	No.	2			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Spare Disks/Capacity (Min 2 No.s OR 5% of the total no. of disks rounded to nearest integer, whichever is higher) for each type of disks i.e. FC/SAS/SSD & SATA/FATA/NLSAS will be provided as hot spare disks in the storage. SAN Management Software The SAN Management software should be array based and provide GUI / web based management with Audit Logging and complete Reporting features like LUN Usage, Empty Space etc. Alternately the SAN management console should be offered in high availability mode so as to ensure that failure of the console does not impact the ability to manage the SAN storage array. All Software/Utilities / Licenses for enabling Multi-pathing, load-balancing etc. between Servers, SAN Switch and Storage shall be provided along with the SAN Storage from Day one. SAN Connectivity and SAN Switch The Proposed SAN Array should be able to connect to minimum 32 hosts on Fiber Channel through 8 Gbps FC Switches with requisite 10 Mtr. LC-LC Cables & Accessories (required in pair). RAID Groups The Proposed SAN Array should support industry standard RAID Levels like single-parity, dual-parity & mirroring etc. SAN Based Local Snapshot / Full Copy Clone Functionality The Proposed SAN Array should support pointer based snapshot copies, as well as full physical copies of Production LUN's. The Software Licenses for this functionality (including snapshot restore) shall be provided for the entire supported capacity of the SAN Array/Frame from day one.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	SAN Based Remote Replication Functionality The Proposed SAN Array should support Array Based Data Replication in both Synchronous & Asynchronous modes with consistent copy of replicated volumes at target site. The replication capability should be bidirectional with ability to fallback and NSPOF. Any software licenses/hardware for the SAN based remote replication shall be provided for the entire supported capacity of the SAN Array/Frame from day one. OS and Virtualization Support Support for Windows 2003/2008/2012, HP-UX, IBM AIX, LINUX, Solaris OS. Should be compatible with offered OS and Virtualization software. Redundancy There should not be any single point of failure in the system. All the hardware components provided should be redundant for high availability. Remote Diagnostics The Proposed SAN Array should support Web based, Email facility for remote services and there should be a support to manage the storage system remotely via dial-in or Remote Rack Mount OEM Rack mounting kit to be provided (19'' President Rack Space shall be provided by BCPL). Note: All the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational shall be provided by the bidder.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
B.4	SAN Switch 24 x 8 Gbps FC Ports Active per Switch. - All Ports Should be auto-sensing 2, 4, 8 Gbit/sec Fibre Channel - Native E_Port switch Interoperability - Should support Media types like Small Form-factor Pluggable (SFP) laser, Short-wave up to 500 meters (1640 feet) and Long-wave up to 10 kilometers (6.2 miles) - All required modules, SFPs, connectors, Fibre patch cables etc. for the entire configuration of the SAN switch shall be provided with the solution from day one. - Shall be provided with inbuilt or separate FC-IP Routers required for Storage based replication between Primary and DR locations in redundant mode (In case the offered SAN Storage doesn't have Native IP based replication functionality) - All the required equipment like servers, storage, Backup server etc. are required to be connected and configured to both the SAN switches in each site to achieve no single point of failure. - Any SAN Switch level configuration required for integration of the storage with any new server / applications in future to be carried out by the bidder during implementation and warranty period with no extra cost (as many times as may be required). - Any license/software/firmware required for	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	implementation and during warranty period is in the scope of bidder. ▪ HTTP, SNMP v1/v3, Telnet; auditing, change management tracking, Syslog etc. ▪ IPsec, IP Filtering, IPv6 compliant, Port Binding, Secure Copy (SCP), SFTP, SSH v2, SSL, Switch Binding, Trusted Switch, logging, port mirroring. ▪ Fabric switches supporting unicast, multicast and broadcast ▪ Firmware upgrades option. ▪ Advanced zoning need to be configured as per SAN Architecture of BCPL. ▪ OEM Rack-mounting kit to be provided Note: All the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational shall be provided by the bidder.					
B.5	Tape Library Shall be offered with minimum Four LTO6 FC Tape Drive and 48 Cartridge slots. Offered LTO6 Drive shall support 160MB/sec speed in native mode and compression factor of 2.5:1. Offered Tape Library should provide at least 2 no. of 8 Gbps native FC Connectivity to SAN Switches for SAN based backup.	No.	2			

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Tape Library should provide web based/ Windows GUI based remote management. Shall be rack mountable and OEM Rack mounting shall be provided. Note: All the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational shall be provided by the bidder.					
B.6	External LTO 6 Tape Drive To be supplied along with cable & connector for connecting to any of the supplied servers for taking local backup.	No.	4			
B.7	LTO 6 Tape Media	No.	100			
B.8	Cleaning Cartridge for Tape library and drives	No.	10			
B.9	Virtualization Software Required Capabilities / Features: • Support for Min. 12 Cores per CPU & Min. 512 GB of RAM in VM Host • VM Snapshot • Support for Min. 50 VMs in single Host Server • VM Template • VM High-Availability / Failover i.e. Auto migration of VM from one Host to another without any/minimal in case parent Host fails. (Few secs downtime or Few ping time-outs are acceptable) • VM Migration i.e. Planned migration of VM from one Host to another without	LS	1			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	any/minimal in case parent Host fails. (Few secs downtime or Few ping time-outs are acceptable) • Management of VMs from single console including Configuration, Snapshot, update/patch management, start/shutdown, Migration from One Host to Other, Switchover to DR etc. • Dynamic allocation of hardware resources like Memory/Storage to the VM • Hot addition/removal of hardware resources like Memory/Storage to/from the VM (Here “Hot” means when VM is operational) • Support for proxy backup server to offload the backup processing load from Host servers • DR enabled from day one i.e. All VMs running at primary datacenter shall be made operational at DR Datacenter in the event of disaster or as and when required by BCPL. • Replication of VMs & their data shall be replicated to DR Site using Storage-based replication, thus only Virtualization software OEM certified SAN storage shall be supplied along with replication software for unlimited data. All the licenses required for achieving all above features/functionalities will be bundled with virtualization software licenses.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
B.10	Operating System for SAP All landscapes and instances of SAP shall be running on VMs in the supplied Virtualization Servers. Adequate Operating System licenses [Microsoft Windows / SUSE Linux / Redhat Linux / Oracle Linux] (latest certified edition) for implementation of all SAP Landscapes and instances (both primary and DR site) as per scope of work is to be provided and configured for operation of SAP in supplied virtual servers. The offered OS should be certified to run SAP with Oracle database in offered virtual server software. [Document to be provided along with the bid]. In case, the offered OS has any special version / edition for SAP, bidder has to provide the same. The latest C compilers and other compilers for development on the mentioned OS in SAP/Oracle environment must be delivered with minimum number of licenses as per vendor's scheme. The production landscape of SAP system shall be configured on high-availability cluster to support 24x7 mission-critical operations for any failure arising due to hardware, database, operating system or SAP processes in any of the Virtual Machines. The bidder has to adequate OS and other license to achieve the same. Bidder has to provide latest Agents for clustering and should not use any scripting to achieve clustering. (Pl. specify break-up of licenses with complete versions, edition and Quantity)	LS	1			
B.11	Backup & Replication solution	LS	1			
C.1	Windows Server 2012 User CAL OLP	No.	650			
C.2	MS Exchange Server 2013 Standard User CAL OLP	No.	650			
C.3	MS Exchange Server 2013 Standard OLP Adequate licenses (latest edition) for	LS	1			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	implementation MS exchange solution (both primary and DR site) as per scope of work is to be provided and configured. (Pl. specify break-up of licenses with complete versions, edition and Quantity)					
C.4	Digital Server Certificate (SAN certified) and any other software for Exchange and Intranet setup (both primary and DR site) (Pl. specify break-up of licenses with complete versions, edition and Quantity)	LS	1			
C.5	Database for non-SAP applications Oracle Database 12c / IBM DB2 / Microsoft SQL Server 2012 / SAP Sybase ASE Offered database is to be configured in a virtual server having 6 cores which shall be used as production server. These virtual servers shall be hosted on the offered Virtualization Servers with Windows server 2012 R2 operating system. There shall be server level redundancy of equal capacity at primary site. DR setup of equal capacity shall be established using offered database's own replication mechanism. The offered database license shall be server / processor / core based for unlimited number of internal / external named / concurrent users and for unlimited data volume. Adequate licenses (latest edition) for implementation of the above database setup (both primary and DR site) is to be provided and configured. (Pl. specify break-up of licenses with complete versions, edition and Quantity)	LS	1			
D.1	E-Mail Gateway OEM - Cisco / Ironport / Symantec / Microsoft / McAfee / Proofpoint / TrendMicro / Barracuda Networks / Google / Postini	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Offered Product Make/Model – Pl. specify Form Factor Rack Mountable Hardware Appliance – OEM Rack mounting kit to be provided. Capacity Each supplied appliance should be capable of handling Min. 500 Active Users / Mailboxes Bidder shall provide Min. Two no. of appliances at Primary site and Min. One at DR Site with following Technical specifications: Min. 1*Dual-core processor, Min. 8 GB RAM or higher, Min. 500GB Storage Capacity using even number of disk drives in redundant configuration, Dual Gigabit NICs. OEM Rack mounting kit. At Primary site, SMTP Gateway appliances shall be configured in Active-Active mode for load balancing. Any H/w or S/w (if needed) to achieve this shall be provided by the bidder. Provided SMTP-Gateway solution shall have redundant components to ensure no single point of failure. Relevant Licenses & subscription for all components including software components installed on appliance shall be valid for 3 Years. IPV6 & IPV4 Compliant from Day one. Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. Anti-Spam Features 1. The solution should Stop and prevent spam attacks in real time without compromising accuracy at the perimeter i.e. E-Mail/SMTP Gateway.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	2. The solution should offer flexible spam management and mail policies that would let IT administrators customize and enforce spam and unwanted mail handling. 3. The solution should offer consolidated reporting which gives administrators visibility into aggregated filtering performance for deployed servers. 4. The solution should allow Administrators to quickly create custom organization-wide content filters to handle messages based on content, sender information, or other criteria. 5. The solution should provide feature to enable end users to take control of their inboxes by specifying personal lists of allowed and blocked senders etc. 6. The solution should be a multi-layered spam protection leverages different filtering technologies, including spam signatures, heuristics, reputation filters, language identification, and many proprietary methods. 7. Incoming mail should not be dropped if any of the Appliances goes down. Operating Environment 1. Support for Windows and Exchange Servers 2007 & Later. 2. Solution should be configured in Load balanced or Primary-Secondary manner to meet high availability requirements without any human intervention.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	3. Solution also to be configured in Disaster Recovery mode to ensure operation during disaster at primary site. 4. Solution should support Windows 2008(or Later) Active Directory. Administration & Reporting 1. The Solution should support for multiple administrators with varying levels of access 2. The solution should provide for comprehensive real-time reporting across all offered functions. Deployment & Scalability 1. The Solution should have High availability features and should have no single point of failure. 2. The solution should support Standards (RFCs) including SMTP, ESMTP, HTTPS, LDAP, TLS/SSL and SNMP. 3. The Solution should be capable of providing Centralized Management console. Functionality 1. The solution should allow multiple allow and deny lists to provide flexible protection. 2. The Solution should support domain-level black and white lists. 3. The solution should support DNS Based Distributed black lists. 4. The Solution should support content and attachment filtering techniques to reduce liability.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	5. The Solution should support Keyword filtering 6. The Solution should support attachment filtering. 7. Should have provision for settings to allow/drop a mail with un-scannable content/attachment. 8. The Solution should support Archived and compressed file integrity. 9. The solution should provide protection from Directory Harvest Attack. 10. The solution should allow customization of the SMTP Banner Text i.e. Connection Greeting 11. The solution should provide protection against Virus Attacks. 12. The solution OEM should have dedicated Spam Analysis and operation centers to provide 24X7 monitoring of spam attacks. 13. The solution should have provision for utilizing Sender Reputation Service data. 14. The Solution should use Reputation Database filters for inbound spam using a dynamic list of known spammers 15. The solution should incorporate Best of the breed AV Scan Engines backed by vendor's security response team. 16. The solution should provide protection					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	against latest threats using rapid release of definitions. 17. The solution should have maximum uptime during the definition updates and during this no spam/virus mails should be missed. 18. The solution should be updated at BCPL Site with latest Virus Definitions or Signatures at configurable interval. 19. The solution should provide choice of actions to be taken on Virus/Spam Mails. 20. The solution should allow administrator to create E-Mail Notifications based on disposition or category of message. 21. The solution should allow administrators to send a copy of message to designated E-Mail address. 22. The solution should have mechanism to authenticate messages using Sender Policy Framework. 23. The solution should have provision to monitor the queue of Inbound/Outbound messages. 24. The solution should have support adding disclaimer to outbound messages. 25. The solution should support adding Global policies to the system. 26. The solution should provide mechanism to submit missed spam. Spam handling 1. The Solution should support Tagging and forward of spam emails.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	- The solution should proactively target patterns common in spam and viruses. - The Solution should support insertion of tags into the Email X-Header. - The solution should allow configuration of subject line tags. - The solution should provide facility for white-lists/Black-lists for individual E-Mailbox. - Solution should support quarantining of SPAM emails. Quarantine - The solution should have configurable quarantine. - The solution should support archiving of Logs/Messages. Management - The Solution should support Incident & Event Management. - The solution should have provision for configuration backup and restore. Anti-Virus Features - Should scan email traffic for Viruses. - Should notify virus attacks through real-time mail alerting mechanisms. - Should collect alerts and provide a comprehensive activity log and statistics. - Should be able to schedule Live Update to retrieve virus definition updates					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	automatically - The solution should back up and hold only the infected attachment, allowing the email text to pass through, which will enable end users to request a new, clean file from the sender or have the administrator repair the file. - Should scan the body of messages (not just the attachment) for malicious code. - The engine updates should be automatically applied as new virus definitions are downloaded—without stopping real-time scanning or re-starting. - Should offer a wide range of reports, allowing you to view the data by: - Year/month/all dates - Virus type - Should scan and repair embedded OLE objects - Should include a Match List feature that helps to create saved lists of words for use in the Content Filtering Rules that will be created - Should let customer to create expressions of pattern-matching logic to find specific and broad categories of subject matter in email and other documents. - Should provide a quick way to filter content for words that are specific to the bank. - Should allow to edit any Content Filtering Rule expression after creating it and should also allow to include or exclude Content Filtering Rules					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Backup & Restore Supplied appliances should have backup / restore feature using single file import / export of configuration / settings / policies etc.					
D.2	Web Gateway with Content-filtering OEM - Blue Coat Systems / Cisco / Websense / McAfee / Symantec / TrendMicro / Barracuda Networks / Zscaler Offered Product Make/Model – Pl. specify Form Factor Rack Mountable Hardware Appliance – OEM Rack mounting kit to be provided. Capacity Each supplied appliance should be capable of handling Min. 500 Internet Users OR 150 Concurrent Users Bidder shall provide Min. Two no. of appliances at Primary site and Min. One at DR Site with following technical specifications: Min. 2*Dual-core processor, Min. 12 GB RAM or higher, Min. 1TB Storage Capacity using even number of disk drives in redundant configuration, Min. 4 Gigabit NICs. OEM Rack mounting kit. At Primary site, Web Gateway appliances shall be configured in Active-Active mode for load balancing. Any H/w or S/w (if needed) to achieve this shall be provided by the bidder. Provided Web-Gateway solution shall have redundant components to ensure no single point of failure. Relevant Licenses & subscription for all components including software components	No.	4			

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	installed on appliance shall be valid for 3 Years. IPV6 & IPV4 Compliant from Day one. Any Licenses/Software (If required) for enabling the same shall be supplied alongwith the hardware. IPv6 Ready logo certified by TEC (India) - Documentary proof to be submitted. Proxy Features 1. Proxy shall be used for internet browsing across BCPL and should support Forward & Transparent proxy. 2. Proxy should be integrated with URL filtering. 3. Proxy should have Antivirus filtering features. 4. Proxy should have Web-Content Caching features. 5. Shall have facility to query the logs and display the appropriate results. 6. The Proxy management tool must provide a Graphical User Interface (GUI) or a Command Line Interface (CLI) for making changes to the proxy rules set. Access to the proxy via the GUI or the CLI should be available. 7. The solution should provide HTTP & FTP Gateway level AntiVirus. 8. The proposed solution should have integrated Anti-Virus scanning capabilities to block Web-based threats including Viruses, Trojans, Worms,					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Phishing attacks and Spywares/Adwares. 9. The solution should be capable of blocking spyware and stop spyware downloads. 10. The solution should provide zero-day Web threat protection by blocking access to suspicious domains. 11. The solution should be capable of blocking access to malicious websites. 12. The solution should be capable of preventing malware from tunneling through non-HTTP protocols such as Instant Messaging 13. The solution should be capable to taking action on password-protected or encrypted files. 14. The solution should have capability to download and scan simultaneously 15. The solution should prompt/intimate user in internet browser on detecting malicious web content/file. 16. The solution should be able to scan compressed files. 17. The solution should have Inbuilt logging and reporting capabilities (Reports by User/Group, Consolidated user reports, Blocking events report, traffic report etc). 18. The solution should support SNMP based System and Event Notifications 19. The solution should have the capability to control access based on IP addresses.					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	20. The solution should support flexible application of the URL filtering policy: 21. It should allow setting of URL policies by category, group etc. and control access by time of day, day of week, and bandwidth quotas (User-Group wise etc.) to improve network performance, reduce legal liability, and increase productivity 22. It should integrate with Microsoft Windows 2008 & later Active Directory for authentication and enabling IT administrator to easily set policies and assign rules for single PCs, users or user-groups. 23. URL, Internet resource access restriction capability based on Network, IP Address, Users, User-Groups etc. 24. Support the following advanced Web content security capabilities: • Spyware detection and blocking at the gateway • Prevents "phishing" attacks Database Granularity 1. The solution proposed should have a database of atleast 10+ million URL's and should support more than 20 categories 2. The solution proposed should support multiprotocols which should include Web 2.0, P2P and IM protocols 3. The solution proposed should provide specific category to address HTTP based technology which by pass web filtering, e.g. third party proxy servers, anonymous					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	surfing etc. 4. The solution proposed should have specific categories for bandwidth choking sites/applications and malicious web sites. Management and Administration 1. The solution proposed should have a Management console that can run on remote machines after installation or through web browser 2. The solution proposed should support system alerts for Notification regarding subscription status, Database activity, or administrator lockouts etc by Email. 3. The solution should be able to export policies to a restorable file. URL Filtering Features 1. The solution should provide security related website categories to address specific security concerns include, but not limit to : a. Malicious Websites b. Key loggers c. Phishing and Other Online Frauds d. Spyware – including drive-by spyware download and back channel communication by spyware installed on local client. 2. The product vendor should be backed up by Labs/Bodies which should mine Internet on a regular basis and update the database daily 3. The solution should have the ability to apply different policies to different users,					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	different client IP address and address range and different user groups 4. The solution should have the capability for Embedded URLs in selected search engines can also be filtered individually 5. The solution should support Time based Policies / Time based quota for URL categories, users, IP, networks, user groups etc. 6. The solution should have the ability for users to define “Regular Expressions” to precisely identify targeted URL. 7. The solution should provide capabilities to customize URL, either it is in the URL database or not, into user defined categories. 8. Ability to collect certain uncategorized or security related URLs to feedback, improve URL categorization and security effectiveness 9. The solution should support display of web based block pages and the block pages should be customizable Protocol Filtering Features 1. The solution should have atleast 80+ protocols/ Applications with atleast protocol/ application categories like Email, File Transfer, Bots, Instant Messaging, Web 2.0, P2P, Proxy Avoidance, Multi Media Streaming Protocols and remote access etc. 2. Support user defined application protocol based on protocol/service port number					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	- The solution should have P2P and Instant Messaging Protocols in its database - The solution should be able to identify the protocols in its database even if its gets tunneled onto HTTP or HTTPS - The solution proposed should be able to enforce policies based on users - The browsing activities performed by the remote users should be logged by the same log component of the URL filtering solution Logging - In the supplied solution each appliance shall have Min. 200GB space for storing Logs. - The solution proposed should have its inbuilt log server which in turn should talk to the database through ODBC or other means. - The solution proposed should consolidate Log Records, minimizes database size and enables faster reporting by combining multiple requests (same user, domain, and disposition) into a single record. - The solution proposed should support URL category based logging. - The solution should provide mechanism of transferring logs to other server. Reporting Features - The solution proposed should have a one stop portal for all reporting features					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	offered. - The web based reporting should be available. - The solution proposed should give real time and historic reporting options. - The solution proposed should have a Real time threat dashboard for the most recent use through the last 24 hours. - The solution provided should support multi-level reports where user can select and display various key metrics together. - The solution proposed should have more than 10 standard report criteria. - The solution proposed should have Information that can be sorted based on selected users, groups, categories, sites, protocols, or actions as well as other options. - The solution proposed should support scheduling & emailing reports by defining parameters such as date/time, type of report, etc. - The solution proposed should support printing and exporting web-based reports into PDF or Excel spreadsheet format. Backup & Restore Supplied appliances should have backup / restore feature using single file import / export of configuration / settings / policies etc.					
D.3	Enterprise AV OEM - Symantec / McAfee / TrendMicro	No.	500			

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Offered Product Make/Model – Pl. specify Protection – Supplied Antivirus shall cover Desktop / Laptops / Servers / Virtual Machines/Hosts (VMs) Operating Systems Support Desktop PCs / Laptops - Windows 7.0 & Later Server & Virtual Machine/Hosts (VMs) - Windows 2000 / 2003 / 2008 & Later MS Windows Installer (MSI) Support should be incorporated for a standards-based installation Extensible Scan Engine Should be able to update definitions & scan engine on the fly, without a need for reboot or stopping of services on servers 1. Should be able to detect new classes of viruses by normal virus definition update mechanisms 2. Should provide common definitions for all operating systems supported & across all product ranges Pre-scan Exclusions Should be able to add files, folders or extensions to an 'exclude' list so that they are not scanned on access. Internet-based Scan & Deliver Should enable automatic submissions of unknown / suspected virus samples to vendor and automatic response / delivery of the cure Incremental Updates Should allow for incremental virus definition and scan engine updates Virus Definition Rollback					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	Should allow for automated rollback of virus definition, if required Roaming Client Support The antivirus software should be able to automatically detect and update definitions & scan engine from the nearest parent server in the network Centralized Management The management console should be able to manage the antivirus software on both Windows desktop / server platforms Policy Enforcement from the console User should be prevented from being able to uninstall the antivirus software. 1. Should be able to set and monitor client & server configurations remotely. 2. Should be able to lock down all antivirus configurations at the desktop. 3. Should be able to optionally make the client user interface invisible for transparent protection. Remote Operations from the console Should be able to perform manual or scheduled virus scans on individual computers remotely 1. Should be able to view all servers and clients from one console. 2. Should be able to initiate virus sweeps remotely (central command to scan all machines in case of an outbreak). Drag-and-Drop Clients Should enable administrators to easily move clients (who have changed departments, for example) from one physical parent server to another simply by dragging and dropping through the central management console.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Store and Forward Event Data Should store event data generated while a client is disconnected from the corporate network and forwards it when the client reconnects. Enforceable LiveUpdate Should enable administrators to launch an immediate LiveUpdate session on single or multiple clients during an outbreak. Deployment Should enable administrators to install the proposed AntiVirus using different methods including Internal web page, Windows Remote Install, Client Packager. Expanded Threat Detection Should extend virus, worm, and Trojan horse detection capabilities to include certain non-virus threats, such as Spyware, Trackware, and Adware, which can compromise client privacy. 1. Dialers, Joke Programs, Remote Access, and Hack Tools, which can be used with malicious intent. 2. Internet E-mail Attachment Scanning (POP3):- Should scan the body text and attachments of incoming e-mail messages that are delivered through POP3 mail clients, such as Microsoft Outlook®, Microsoft Outlook Express, Eudora®, and Netscape® Mail. 3. Behavior Blocking—Outbound E-mail Worm Heuristics: - Should detect applications that attempt to spawn themselves over the network or Internet by e-mail. This feature is extremely important as mass-mailer worms typically contain their own SMTP engine for self-propagation.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	In-Memory Scanning Should scan in-memory processes on disk for threats. If a threat is detected, the running process should be terminated Virus statistics Should be able to report on virus statistics to keep virus security upto-date and also to pinpoint the most common entry points and monitor antivirus policies to prevent infections Reporting Should be able to show detailed reports for the update, upgrade and product coverage summary with the details of the desktop (Name of the System, IP Address, Username and the operating system of the Desktop) Should enable administrators to identify which machine has generated a threat that is spreading by an open file share (for example, Nimda or CodeRed). Centralized Management , alerting and reporting Actionable Security Information:- Should transform enterprise-wide anti-virus event data into actionable security information through: 1. Event Aggregation:- Should consolidate anti-virus events across multiple anti-virus solutions on various network tiers. 2. Event Normalization:- Should provide a standard appearance to the collected data 3. Event Reduction, Should eliminate redundancies across products by presenting only unique events. 4. Visualization: - Should generate graphical and detailed reports that					

SN	Items & its Specifications	UOM	Qty	Meet Specification s (Y/N)	Make/ Model	Remarks
	provide a holistic view of an organization's anti-virus security posture. Centralized Management - Should provide a single, centralized management console that offers integrated anti-virus event logging, alerting, and reporting capabilities across disparate anti-virus technologies and network tiers. Comprehensive Event Logging - Should provide complete, centralized anti-virus event logging, which administrators can easily view, query, filter, and sort. Powerful Alerting - Should provide flexible, customizable alerts that notify administrators of virus events detected throughout their enterprise, based on pre-configured threshold settings, such as the: 1. Type of anti-virus event received. 2. Number of similar anti-virus events received. 3. Number of events over a period of time. 4. Number of events from a particular system over a period of time. Delivers immediate alert notifications via several methods: 1. Internet e-mail 2. SNMP traps 3. OS event logs Flexible Reporting - Should enable administrators to generate customizable, detailed or graphical reports of enterprise-wide virus activity. Report Filtering - Should enable administrators to filter and generate reports, based on a location, server, type of event and depending on various criteria which can be specified.					

SN	Items & its Specifications	UOM	Qty	Meet Specifications (Y/N)	Make/Model	Remarks
	Role-Based Administration - Should enable security personnel to configure multi-level, role-based access to the centralized management console, restricting the capabilities of some administrators to specific actions. For example, a role could be created to give a user access to antivirus events but not sensitive content filtering events. Relevant Licenses & subscription for all components including software components installed on appliance shall be valid for 3 Years.					

Location-wise Bill of Material

SN	Item Description	UOM	Primary Site	DR Site
A.1	Routers	No.	4	4
A.2	Link Aggregators / Load-Balancers	No.	2	2
A.3	External Firewall with IPS	No.	2	2
A.4	Internal Firewall with IPS	No.	2	2
A.5	L3 Switch	No.	4	4
A.6	Edge Switch	No.	3	3
A.7	Reverse Proxy	No.	2	2
A.8	VPN Appliance	No.	2	2
A.9	AAA Appliance	No.	2	2
B.1	Virtualization Servers	No.	3	3
B.2	Standalone Servers	No.	6	6
B.3	SAN Storage	No.	1	1
B.4	SAN Switch	No.	2	2
B.5	Tape Library	No.	1	1
B.6	External LTO 6 Tape Drive	No.	2	2
B.7	LTO 6 Tape Media	No.	50	50
B.8	Cleaning Cartridge for Tape library and drives	No.	5	5
B.9	Virtualization Software	LS	1	
B.10	Operating System for SAP	LS	1	
B.11	Backup & Replication solution	LS	1	
C.1	Windows Server 2012 User CAL OLP	No.	650	
C.2	MS Exchange Server 2013 Standard User CAL OLP	No.	650	
C.3	MS Exchange Server 2013 Standard OLP	LS	1	
C.4	Digital Server Certificate and any other software for Exchange and Intranet setup	LS	1	
C.5	Database for non-SAP applications	LS	1	
D.1	E-Mail Gateway	No.	2	2
D.2	Web Gateway with Content-filtering	No.	2	2
D.3	Enterprise AV	No.	500	
E.1	Construction of Data Centre	LS	1	
F.1	Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified in the Bid document.	LS	1	
G.1	Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)	LS	1	
H.1	System Support Services & Facility	Qtr.	12	

SN	Item Description	UOM	Primary Site	DR Site
	Management			

Annexure – C

List of Location/Site Addresses

Primary Site:

2nd Floor, Administrative Building,
 Brahmaputra Cracker and Polymer Limited,
 Lepetkata – 786006,
 Dibrugarh,
 Assam

DR Site:

2nd Floor, Infohub Building,
 GAIL (India) Limited,
 B-25 & 36, Sector – I, Noida,
 UP-201301

NON-DISCLUSURE AGREEMENT

This Agreement is made on this _____ day of _____ 2014.

BETWEEN

Brahmaputra Cracker and Polymer Ltd, a Company incorporated under the Companies Act, 1956 and having its Registered Office at Hotel Brahmaputra Ashok, MG Road, Guwahati, Assam – 781001, India (hereinafter referred to as "BCPL", which expression unless repugnant to the context shall include its successors and assignees) represented by its _____ Mr. _____, of the First Part

AND

_____ a Company incorporated under the Companies Act, 1956 having its principal place of business at _____ (hereinafter referred to as "_XXX", which expression unless repugnant to the context shall include its successors, assignees and subsidiaries) represented by its _____ Mr. _____, on the Other Part.

BCPL and XXX may also be referred to individually as “Party” and collectively as “Parties” herein below.

WHEREAS:

1. BCPL is desirous of appointing XXX to provide necessary advice and support in modifying, upgrading its existing systems and operations and/or installation of new components, equipment, systems, software, etc and the Parties are in the process of entering into a Contract
2. During the course of the engagement or subsequently disclosure of certain information which is proprietary/ confidential to BCPL may become necessary or desirable.
3. BCPL is willing to disclose such Proprietary/Confidential Information (as defined in Clause 1 below) to XXX upon the terms and conditions herein set forth and XXX is willing to maintain the confidentiality of such information disclosed to it by BCPL in accordance with the terms and conditions hereof.

NOW THEREFORE, in consideration of the disclosure of such Proprietary/Confidential Information and upon covenants and promises herein contained, it is agreed as follows:

1. “Confidential Information” shall mean any information, including without limitation, information created by or for BCPL, whether written or oral, which relates to internal controls, computer or data processing programs, algorithms, electronic data processing applications, routines, subroutines, techniques or systems, or information concerning the business or financial affairs and methods of operation or proposed methods of operation, accounts, transactions, affiliates, or any client of either party, except such information which is in the public domain at the time of its disclosure or thereafter enters the public domain other than as a result of a breach of duty on the part of the party receiving such information. It is the express intent of the Parties that all the business process and methods used by XXX in rendering the services hereunder are the Confidential Information.

2. XXX shall keep confidential any Confidential Information of BCPL with the same degree of care as it would treat its own confidential information. All the Confidential Information will be used only for the purposes of this Agreement and shall not be disclosed to any third party for any reason whatsoever.
3. At all times during the performance of the Services, XXX shall abide by all applicable information security rules, policies, standards, guidelines and procedures. XXX agrees that before any of its employees or assignees is given access to the Confidential Information, each such employee and assignees shall agree to be bound by the terms of this Agreement and such rules, policies, standards, guidelines and procedures by its employees or agents.
4. XXX agrees that at all times and notwithstanding any termination or expiration of this Agreement it will hold in strict confidence and not disclose to any third party Confidential Information of BCPL, except as approved in writing by BCPL, and will use the Confidential Information for no purpose other than evaluating or pursuing a business relationship with BCPL. Notwithstanding the above, XXX shall not be in violation of this section with regard to a disclosure that was in response to a valid order by a court or other governmental body, provided that XXX seeks BCPL with prior written permission of such disclosure. XXX shall only permit access to Confidential Information of BCPL to those of its employees or authorized representatives having a need to know and who have signed confidentiality agreements or are otherwise bound by confidentiality obligations at least as restrictive as those contained herein.
5. XXX shall immediately notify BCPL upon discovery of any loss or unauthorized disclosure of the Confidentiality Information.
6. XXX's obligations under this agreement with respect to any portion of BCPL Confidential Information shall terminate when XXX can document that:(a) it was in the public domain at the time it was communicated to XXX by BCPL;(b) it entered the public domain subsequent to the time it was communicated to XXX by BCPL through no fault of XXX;(c) it was in XXX's possession free of any obligation of confidence at the time it was communicated to XXX by BCPL;(d) it was rightfully communicated to XXX free of any obligation of confidence subsequent to the time it was communicated to XXX by BCPL; or (e) it was communicated by BCPL to an unaffiliated third party free of any obligation of confidence.
7. Upon termination or expiration of the Agreement, or upon written request of BCPL, XXX shall promptly return to BCPL all documents and other tangible materials representing the BCPL Confidential Information and all copies thereof.
8. XXX recognize and agree that nothing contained in this Agreement shall be construed as granting any property rights, by license or otherwise, to any Confidential Information of BCPL disclosed pursuant to this Agreement, or to any invention or any patent, copyright, trademark, or other intellectual property right that has issued or that may issue, based on such Confidential Information. XXX shall not make, have made, use or sell of any purpose any product or other item using, incorporating or derived from any Confidential Information of BCPL .
9. Confidential Information shall not be reproduced in any form except as required to accomplish the intent of this Agreement. Any reproduction of any Confidential Information of BCPL by XXX shall remain the property of BCPL and shall contain any and all confidential or

proprietary notices or legends that appear on the original, unless otherwise authorized in writing by BCPL.

10. XXX's obligations under this Agreement shall survive termination of the Agreement between parties and shall be binding upon XXX's heirs, successors and assigns. XXX's obligations hereunder shall continue in full force and effect with respect to Confidential Information.
11. This Agreement shall be governed by and construed in accordance with Indian Law without reference to conflict of laws principles. Any Disputes under this Agreement may be referred to the Courts of New Delhi, India, and the parties hereby consent to the jurisdiction and venue of these Courts.
12. This Agreement may not be amended except in writing signed by both parties hereto.
13. XXX acknowledges that its breach of the Agreement will cause irreparable damage to BCPL and hereby agrees that BCPL shall be entitled to seek injunctive relief under this Agreement, as well as such further relief as may be granted by a court of competent jurisdiction.
14. If any provision of this Agreement is found by a proper authority to be unenforceable or invalid such unenforceability or invalidity shall not render this Agreement unenforceable or invalid as a whole and in such event, such provision shall be changed and interpreted so as to best accomplish the objectives of such unenforceable or invalid provision within the limits of applicable law or applicable court decisions.
15. XXX will not assign or transfer rights or obligations under this Agreement without prior written consent of BCPL.
16. XXX shall not export, directly or indirectly, any technical data acquired from BCPL pursuant to this Agreement or any product utilizing any such data to any country for which the Government of India or any agency thereof at the time of export license or other governmental approval without first obtaining such license or approval.

In WITNESS WHEREOF, the parties hereto have caused this Non-Disclosure Agreement to be executed as of the Effective Date.

<Name>

BCPL (INDIA) LIMITED

By:

By:

<NAME><DESIGNATION>

<NAME><DESIGNATION>

Date:

Date:

Address:

Address:

Setting up of Data Center at BCPL, Lapetkata, Assam

1. Scope of Work for Bidders

Bidder has to design, site preparation, supply, installation, commissioning and integrate Data centre and other supporting rooms in the mentioned floor of the building, details of works and the minimum specifications has been elaborated in this RFP. The bidder has to study the site and propose the design thoroughly and quote for the total solution of works in all respect.

The detailed BOQ has to be provided by the bidder. The successful bidder has the sole responsibility to complete the solution and integrate the same for proper functioning. Any deviation to the technical specification has to be mentioned in the tender as separate annexure for each package.

2. Instructions to the bidder:

- All the bidders are requested to do a proper site survey and quote for complete solution.
- All the bidders are to abide with local rules and regulation, specifications laid by government / municipality or any of the concerned authority including the various insurance for man and materials etc, in all the works / sub works. Such rules will over ride / co- exist and will be applicable above any of the specifications given in this document.
- The selected bidder shall submit product broacher and sample as applicable for the entire product used for construction get the approval of client before ordering the same.
- The selected bidder shall submit all drawings before start of work. The as built drawings shall be separate for each package and shall be submitted in 3 sets in hard copies and in softcopy on a CD which contains drawings both in AutoCAD and PDF.

3. Technical Specifications:

3.1. Civil & Interior works

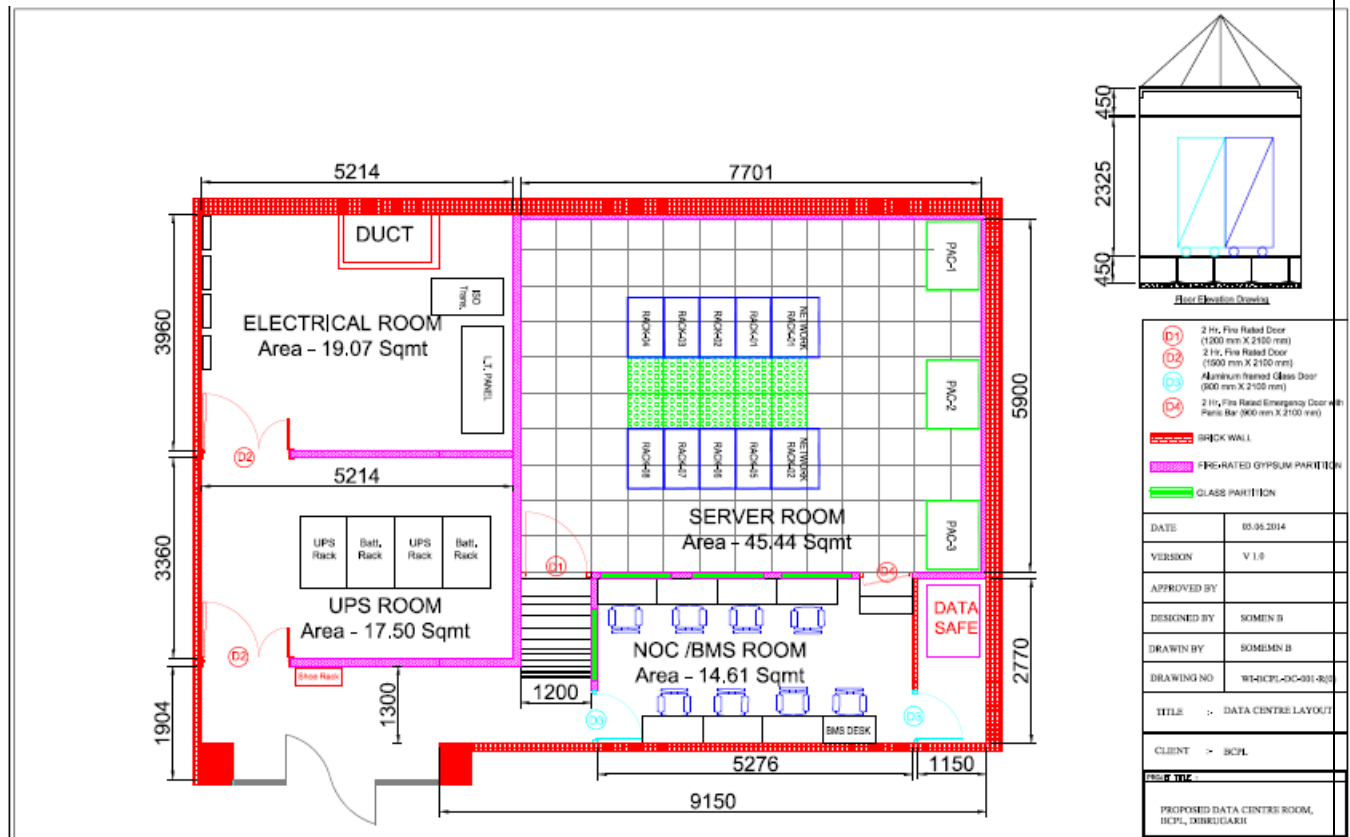
3.1.1 Proposed Design

Entire Data Centre & Supporting Room is logically divided in Zones.

Zone A—Comprises of Server room which host Servers rack, Network Racks and PAC at Second floor. The area proposed for Zone A is approximately 490 sqft.

Zone B—This has NOC room and BMS room is designed for 8 seater at Second floor is. Area proposed for NOC & BMS room is approximately 160 Sqft.

Zone C—This has Electrical & UPS room is designed with Data centre Panels, UPS, Batteries and AMF panel at Second floor. Area proposed is approximately 400 Sqft.



3.2 General Layout:

Preparing a detailed layout drawing and showing the proposed infrastructure as per the design and RFP requirement.

3.2.1 Cleaning:

The successful bidder will remove the dismantled / demolished material with prior permission from the client on a daily basis.

3.2.2 Pest Control:

Pest control has to be carried out as per IS 633 part II for the Data Centre room, Electrical, UPS and Battery room.

3.2.3 Cutting and chipping:

The existing floor shall properly access for strength to take the load. The operation shall be carried out after taking prior permission from the client.

3.2.4 Trench for cables and pipes:

Trench may be required to be made for cables to be laid from substation to Electrical room. The same has to be done by the Bidder. The bed of the trench has to be filled in with sand and brick. Enough care should be taken not to damage any existing pipes, wires, cables that comes in the way of trench. Any damage done to existing structure has to be borne by the bidder.

3.2.5 Cement based Concrete 1:2:4

Providing, laying concrete based concrete of 100 mm thick in Screed Concrete 1:2:4 , using 20 mm graded granite aggregate including compaction, curing, formwork, top surface finished smooth etc. all complete as directed by engineer in-charge.

The specification covers design and implementation of architectural and interior work for the proposed Data Center to be installed by BCPL, Assam as detailed in the specification, complete with supply of all accessories/tools required for aesthetic, lasting and technically superior solution.

The scope of work shall include but not limited to the following:

- Hardware & metals
- Paint work (Fire rated)
- False flooring (Fire rated)
- False ceiling (Fire rated)
- Partitioning (Fire rated) and furniture
- Doors, windows & Locking
- Insulation
- Other miscellaneous civil work as per site requirement

A1. Insulation Work:

The floor and ceiling slabs should be heat-insulated, or coated with a heat insulating material to avoid condensation on floors below and above and to reduce the heat transfer in the server/network room area. The insulation shall be done with 13 mm thick self-adhesive aluminum foil face nitrial rubber. The floor and ceiling shall be coated with epoxy paint.

A2. Raised floor

The server & other required area (as shown in the drawing) should be equipped with raised floor with 600 mm (24 inch) height and Control Room 300 mm height. Cavity floor shall have false flooring panels of 18 gauge steel 600 x 600 coated with 50 micron epoxy conductive paint. Floor shall be finished with 2mm thick antistatic high pressure laminate with 2mm thick PVC trim edge all-round. The interior of the panels shall be filled with non-combustible cementious compound.

A2.1. False flooring panels

The floor should be designed for standard load conforming to BIS 875-1987.

Panels should be made up of 18-gauge steel of 600mmx 600mm size treated for corrosion and coated with epoxy conductive paint (minimum thickness 50 Micron). False flooring covering shall be antistatic high pressure laminate 2 mm. thick in approved shade and colour with PVC TRIM edge.

Perforated floor panels are to be provided on the designated floor for air delivery. The placement of perforated panels shall be decided as per the PAC layout. The perforated panels shall have dampers. The interior of the panels shall be filled with non-combustible cementitious compound.

The false floor should withstand the load of the racks with 50% safety margin.

No obstructions of pipes, conduits, detectors shall be permitted in space immediately under equipment line-ups. The under floor space under line-ups is required for equipment frame securing, cable management and power access.

Ramps and steps are to be provided for transitioning to elevated floor area. Ramps are to be designed and installed as per building code requirements.

Special tools and tackles required for operation of false flooring shall be supplied in two sets.

The bidders may note the following details pertaining to panels for false flooring:

Panel Loading: Concentrated point load: 450 Kg as per European Standard EN 12825

Uniformly Distributed Load: 1500 Kg/ M²

Fire Rating: Panels will conform to Class 0 and Class 1 fire rating tested as CIRC 91/ 61 or BS 476 Part 6 & 7 (60 minutes).

A2.2. Under Structure

Pedestal Assembly: Pedestal assembly shall be of snap lock type consisting of base assembly 100 x 100 x 2 mm. with full bead weld to steel base plate with embossing and four numbers holes which shall be fixed to the floor with screws. Anti vibration rubber pad shall be provided below base plate. Steel pipe riveted to base plate shall engage the pedestal head assembly. Head shall be formed steel and full bead weld to stud, with four flange having shape and size as per standard approved manufacturers' specifications. Pedestal head flanges shall be provided with holes for screws for fastening the G.I. Stringers. No sharp edges or corners shall be exposed from pedestal head when floor panel is removed. G.I. rod, fully threaded shall be locked to pedestal head. The entire head assembly is engaged in the base assembly by means of nut and check nut.

A2.3. Stringer

Stringer system is hot dipped galvanized sheet, construction having channel, with pre-punched counter and holes at both ends of the top face for securing the stringers on to the pedestal head to be fixed with screw ensuring maximum lateral stability in all directions. The grid formed by the pedestal and stringer assembly shall receive the floor panel. The stringer system would be earthed properly by using copper wire. This is required for some of the servers for transient grounding.

A3. False ceiling

False Ceiling at appropriate height should be installed concealing any cabling tray and electrical lighting wiring in all areas.

For Data Center: False ceiling shall be provided with Armstrong Lay in (Hot dipped galvanized steel) metal ceiling system 600 x 600 x 5mm with standard perforation of 2.5 mm dia (16% open space) and fleece with NRC of 70 & CAC 36 to be laid on Armstrong grid system. Armstrong Orcal Lay in metal ceiling System consisting of 600x600mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5mm dia & open area of 16%. The back of the tile should have black acoustical fleece with NRC of 0.70 & CAC 36 to be laid on Armstrong grid systems with 15mm wide T - section flanges Colour white having rotary stitching on the Main

Runner, 1200 mm & 600 mm Cross Tees, fixed to the structural soffit by Butterfly clip hangers, suspension wires & anchor fasteners as per the manufacturer's specification. Suspension wires to be provided at every 600mm c/c with two nos of ties on each anchor fastener, Perimeter trim of Trulok wall angle in white colour secured to wall at 450mm maximum centers.

The False Ceiling tile should be Dust free type. Each False Ceiling tile (preferably 600mm x 600mm) should be individually removable for access to area above False Ceiling.

A4. (A) Partitions/ Walls

Partitions/ wall for walls other than brick walls shall be of Gyp board.

The internal partitions for server room, battery room, UPS and electrical room shall be full height 125 mm thick fire line Gyp Board using 12.5 mm thick double fire line gyp-board on both sides with GI sheet metal vertical stud frame of size 75 mm thick fixed in the floor and ceiling channels of 75 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing shall be made by self tapping screw width vertical studs being at 610 mm intervals. The same should be inclusive of making cut-out for switchboards, sockets, grills etc. It shall also include preparing the surface smoothly and finally finishing with one coat of approved brand of resistant coating.

(B) Glass Wall

All glass are to be of preferred manufacturer complying with IS 1548-1966 as per approved quality and sample to be of the selective qualities specified and free from bubbles, smoke, wanes, waviness, air holes and any other defects.

A5. A. Vitrified Flooring

20mm thick vitrified tiles 600 x 600 size conforming to IS:15622: 2006 to be fixed with special adhesive of Dr. Fixit Fevimate X-L or equivalent in areas other than false flooring areas mentioned in the drawing such as Lounge, Corridors, Manager Room & Engineering Room. All areas should have 6" skirting. Cable trenching arrangement shall be made as per drawing.

A5 B. Vinyl Flooring

2 mm thick anti-static vinyl flooring over the prepared surface. It shall be fixed by applying the appropriate cement paste to fix the vinyl flooring over the base floor slab.

A6. Doors

Fire rated Double leaf metal doors of size as per the drawing and requirement with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete..

Glass door of size 900 X 2100mm in the Workstation room should be double glass panel with one glass should be with 2 hr fire rated wired mesh glass with min 5 mm thickness and other glass 6 mm thick toughen type. Glass should be properly fixed in the Aluminium frame work with the size of 90 x 50 x 2 (304 Grade).

A7. Painting

Anti-dust type painting shall be used for SCADA/ DMS Control Center.

Gypsum / Plaster of Paris paste of thickness 5 - 8 mm punning over cement plaster shall be provided so as to ensure a level and smooth texture to the exposed walls and columns. The existing surfaces are to be cleaned and scratched and markers are kept before the application of punning material. After the material has dried upon application it is to be smoothened by means of rubbing it with sandpaper. Upon this smoothened surface one coat of primer and two coats of plastic emulsion paint of approved make & shade is to be applied. This will be applicable for all vertical plane surface and for fire line gyp-board ceiling. Server room shall additionally be applied with painting putty to level & plumb and painting with 2 coats of fire retardant painting.

A8. Furniture and Miscellaneous work

Work Table for other areas of size 1200 mm x 750 mm including in-built arrangement of drawers, cupboard, computer keyboard tray, C.P.U. rack with provision for raceway below the worktop for carrying wires and switches including all as per specification and as approved by Engineer in-charge and as per catalogue of preferred make.

Providing and fixing white magnetic board of Alkosign display system on wall of 1050 X 1200 mm and fixed with all necessary arrangement as per manufacturers specifications etc. complete.

Long Back Chair for Workstations - Long back hydraulic gas lift chair for workstations with comfortable arms rest of size 650 mm (L) x 650 mm (D). The height of the chair should be adjustable from 1190 mm to 1300 mm with seat height adjustable from 420 mm to 540 mm. The long back chairs should have aesthetically pleasing and ergonomic design with revolving mechanism

Quantity of each item of furniture:

Sr No	Specification for furniture	Location	Quantity	Total
1	Workstation Table	NOC & BMS Room	8	8
2	Long Back Chair for Workstations	NOC & BMS Room	8	8

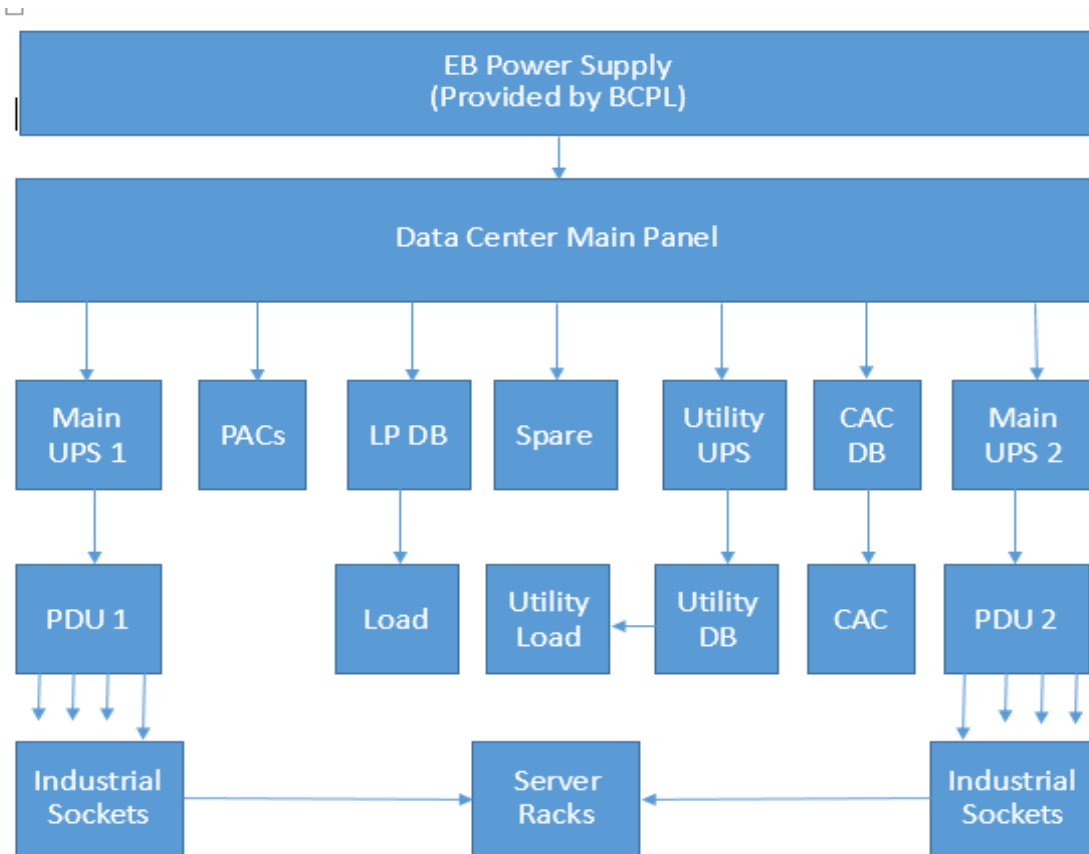
A9. METAL RAMP : Providing and laying the metal ramp with 10 to 25 degree inclination with necessary hard wood/metal framework with hard wood/metal deck detachable type & fixed with vertical surface of false floor complete as directed by engineer in charge.

A10. GLOW SIGNAGE:- Providing & fixing glow signage on both sides of the door shutters marking PUSH / PULL along with other signage marking different work areas and emergency signs.

- Fire proof safe (300 Ltrs. or above) with one hour fire rated.
- Mezzanine Floor / False Level

The selected bidder shall be responsible for the construction of Mezzanine Floor in between the existing Second Floor, Second floor Slab to slab height is too high & the ceiling of second floor shape will be in Triangle for better understanding refer the floor Elevation in Layout. The bidder is required to undertake the opinion of the structural consultant for the construction of the mezzanine floor in metal.

4. Electrical



Note: Any equipment required to achieve UPS level redundancy for the devices placed in server rack shall be provided by the bidder.

4.1 UPS & Batteries

Scope:

The purpose of this work includes Supply, install, commissioning and test the equipments and systems till the end of defect liability period.

The following are the required specification for UPS:

The UPS system shall ensure continuity of electric power to the load within the specified tolerances, without interruption upon failure or deterioration of the normal AC source (utility power) for a maximum protection time determined by the capacity of the backup batteries installed.

The UPS system shall be in double-conversion mode ONLINE scalable UPS configured in parallel. Each UPS unit shall have a unit rating of (60 KVA)/ 60 KW and 6kva UPS for NON critical load (Transformer-less non modular UPS)

- Microprocessor based VFI-type UPS as per standard IEC 62040 part II/III
- Rectifier type: IGBT
- Input Power factor to be 0.99 or higher
- Input THDi to be to be <3.5% @ 100% load

□ □ □ □ □ □ □ □ □ □ □ □ Input voltage tolerance

-25% / +15% at full load

-30% / +15% at 80% load

-40% / +15% at 60% load

- Input Frequency tolerance 35 – 70 Hz
- DC Ripple 1%
- Inverter type: IGBT
- Output Frequency tolerance 50 Hz +/- 0.1%
- Output voltage tolerance - static: +/- 1% ; - dynamic (0-100-0 load step): +/- 4%
- Over load to be 125% for 10mins and 150% for 1 min
- Overall Efficiency at 100% load >95%
- Output Power factor of UPS to be Unity
- Crest factor to be 3:1 with +/- 2% total harmonic distortion (THD) maximum into a 100% linear load, and +/- 3% THD maximum into a 100% non-linear load
- SNMP feature to be provided
- Event logging status for 1000 events
- Ingress protection: IP20
- Static / Manual Bypass feature in built

4.2 Operating principle

A. Normal operation

The rectifier shall supply the corresponding inverter with DC current while the charger simultaneously float charges its battery. The load is continuously supplied with dependable electrical power by the inverter.

B. Operation on battery power

Upon failure or excessive deterioration of the normal AC source, the inverter shall continue to supply the load with power from its battery without interruption or disturbance, within the limits imposed by the specified battery backup time.

C. Battery recharge

When the normal AC source is restored, the rectifier shall again power the corresponding inverter,

without interruption or disturbance to the load, while the charger automatically recharges the battery. The UPS system shall ensure sharing of the total load between the various units.

D. Transfer to bypass source

In the event of an overload exceeding system capabilities (short -circuits, heavy inrush currents, etc.) the load shall be automatically transferred, instantaneously and without interruption, to the bypass AC source, on the condition that bypass power is available and within tolerances. To that end, synchronization of each inverter in phase and frequency with the bypass source shall be automatic.

Transfer of the load back to the UPS-unit outputs shall be automatic or manual. During transfer, the load shall not suffer an outage or disturbance in the supply of power.

To ensure transfer in complete safety, the system shall close simultaneously the static switches.

On request, the UPS system may automatically transfer the load with a micro -interruption if a major fault occurs on the UPS system and if synchronization with the bypass source has not been established.

E. Redundant Operation of UPS

The units shall operate in load sharing mode. The UPS systems will be synchronized for voltage and frequency. Power from UPS should be fed to the racks. The UPS systems will be on N+1 redundant mode. In case of failure of one UPS the load will be transferred to the other one without affecting or creating any disturbance to the load

F. Technology

The UPS shall be based on IGBT technology with built -in thermal monitoring and a high free-frequency chopping mode to dynamically optimize efficiency and power quality.

G. Efficiency

Overall Efficiency of each UPS unit shall be greater than or equal to

95.5% at full rated load in normal mode

95% at 50% rated load in normal mode

94.5% at 25% rated load in normal mode

H. Battery backup time

The backup time of each battery in the event of a normal AC source outage shall be Half an hours per UPS. The design life of each battery shall be equal to at least 10 years. Batteries shall be selected and sized accordingly. Batteries shall be of 12 V sealed VRLA type SMF/ VRLA battery shall be sized considering the end cell voltage of 1.75V per cell.

The battery breaker should be automatically disconnected when battery reached the minimum discharge voltage level or signal from control circuit. The battery should be housed in suitable Racks.

If the bypass power is within the tolerances, the presence of the static switch shall make it possible to use the short -circuit power of the bypass source to trip the downstream protection devices of the common inverter output.

I. Mechanical characteristics

I. Dimension:

The UPS shall require as little floor space as possible. The ratio between the foot print and weight will be a criterion for selecting the product/brand. It should be as low as possible

II. Connection:`

The terminal blocks must be easily accessible from the front when the UPS is installed with the back of the wall. Entry of upstream and downstream power cables shall be possible.

The neutral conductor shall be oversized for any third order harmonic currents and their multiples (the size of the neutral shall be 2 times that of each phase)

J. Standards, tests and quality assurance

Standards

All equipment shall be designed and built in accordance with accepted engineering practice and applicable international standards, in particular the standards listed below.

- Safety: IEC/EN62040-1-1:2003, IEC/EN 60950-1:2001/A11:2004
- Electromagnetic Compatibility : IEC/EN 62040-2:2005, IEC/EN61000-3-2:2000, IEC/EN61000-6-2:2001, IEC/EN61000-6-4:2001
- EMC Immunity: IEC 61000-4-2 to 6
- EMC Emission: IEC 62040-2 Category C3
- Performance: EN62040-3:2001
- CE marking.

Also must comply with environmental -protection standards; with production taking place on premises certified ISO 14001. The UPS design procedure shall be covered by an ISO 9001 quality system as well as a dependability study to ensure maximum reliability.

Transient voltage surge suppression shall be provided at appropriate locations as stipulated by IEEE

Electrical Works (Low Side)

General Specifications:

Scope:

The scope of work includes Supply, install, test, commissioning and maintaining the equipments and systems till the end of defect liability period.

4.4 Technical Specification for Lt Panels

4.4.1 The power control panels

The power control panels shall be metal clad, totally enclosed, rigid, floor mounting, air insulated, cubical type for use on 415 volts, 3 phase, 4 Wire 50 cycles system. The equipment shall be designed for operation in high ambient temperature and high humidity tropical atmospheric conditions. Means shall be provided to facilitate ease of inspection, cleaning and repairs, for use in installations where continuity of operation is of prime importance.

The equipment shall be designed to confirm to the requirements of:

- IS 4237 - General requirements for switchgear and control gears for voltages not exceeding 1100 volts.
- IS 2147 – Degree of protection provided by enclosures for low voltages switchgear
- ARE 375 – Marking and arrangements of bus bars
- Individual equipment housed in the power control to the following IEC specifications:
- Moulded case circuit breakers - IS 13947
- Miniature circuit Breakers – IS 8828 -1996
- Fuse switch units – IS 4064
- Current Transformer – IS 2705
- Voltage Transformer - IS 3156
- Relays – IS 3231
- Indicating Instruments - . IS 1248
- Control Switches and push buttons – IS 711
- Auxiliary contractors – IS 6875

4.4.2 Power distribution units

Power distribution which will have a main incomer MCCB and suitable no of distribution with 2 /4 pole MCB of “D” curve of given configuration / size. This will be a standalone wall mounted / cabinet. This wall mounted / cabinet will be factory assembled and tested to ensure reliability and consistent performance. Each breaker should have adjacent identification tag for rapid circuit ID identification.

4.5 Technical Specification- Supply and Installation of Low Voltage Cables

Type:

Low voltage cables shall be copper conductor (unless otherwise specifically mentioned for Aluminum), PVC /XLPE insulated and will be of FR / FRLS type. PVC sheathed and steel wire armored or steel tape armored construction. The conductors of cable from 16sqmm size shall be stranded. Sector shaped stranded conductors shall be used for cables of 50sqmm size and above. The cable shall conform to IS – 1554 part -I in all respects.

The XLPE cables shall be ST HR inner sheathed ST2 - FRLS outer sheathed as per IS – 7098 (Part-1) wire stripped.

Rating:

The cable shall be rated for a voltage of 1100 volts.

Core Identification:

Cores shall be provided with the following color scheme of PVC insulation.

- 1 Core: Red/Black/Yellow/Blue OR proper identification with heat shrinkable sleeve at the termination ends and at every 1 meter interval in case of black cables.
- 2 Cores: Red and Black
- 3 Cores: Red, Yellow and Blue
- 3 1 / 2 / 4 Core: Red, Yellow, Blue & Black.

Cables and other items:

- Specifications for XLPE Cables: IS 7098 part-1-1988
- Specification for PVC insulated: IS 1554 -1964 (Heavy duty) electric cables Part - I for voltage up to 1100 Volts.
- Specifications for PVC insulated: IS 694 – 1988 for voltage up to 1100V Part - II With aluminum conductors.
- Glossary of terms for electrical cables: IS 1885 - 1971 and conductors.
- Code of practice for safety of buildings: IS 1646 -1961
- (General) Electrical installation.
- Single phase neutral conductors shall be sized throughout to carry the full design load current and shall not be less than the full size of the phase conductors. Neutral conductors shall not be shared between circuits. All 3 phase neutral conductors shall be rated at 150 % of the phase current. No cable joins are to be used

Cable Trays:

Cables shall be laid on cable trays. The cables laid shall be securely fixed to the Cable trays by means of lockable nylon ties. After laying the cables the cable shall be securely fixed by using 25x3mm GI strips and bolted to the cable tray. The cost of the nylon ties and the overlapping GI strip shall be included in to the laying cost of the cable as no separate payment will be made for the overlapping strip and nylon ties. Cables installed on trays or ladder shall be laid in a single layer, leaving 25% of the tray or ladder width as spare capacity for further use. Single core cables forming part of a three phase circuit shall be run in trefoil formation.

Cable Terminations:

Each termination shall be carried out using brass compressions glands and cable sockets. Hydraulic crimping tool shall be used for making the end terminations. Cable gland shall be bonded to the earth by using suitable size G.I wire / tape.

4.6 Technical Specification - Low Voltage Distribution System**Distribution boards for power and lighting distribution:**

Distribution boards shall be suitable for 415 volts, 3 phase A.C. supply of 230 volts single phase A.C. supply as required. Distribution board shall generally conform to IS: 2675.

4.6.1 PVC Conduits & Accessories:**Conduits**

General conduits shall be of PVC extruded – FR / FRLS with original mix. The wall thickness of conduits shall be as follows: -

- a. 20, 25 & 32mm – 1.5mm or 2mm thick.
- b. 38, 50mm and above - 2.5mm thick.

The PVC conduits shall conform to the requirements of IS: (latest edition) in all respects. The conduits shall have uniform wall thickness and uniform cross section throughout. The conduit shall be free from burrs. Conduits shall bear the name or trade mark of the manufacturer on each length. Conduits of less than 19mm dia. shall not be used. Conduits accessories such as bends, inspection bends, inspection tees, elbows, reducers, draw boxes, junction boxes, etc. shall be of approved makes. The conduit accessories shall conform in all respects to IS: 3837. Boxes shall have internally tapped spouts. Junction boxes / inspection boxes shall be provided with suitable covers.

Installation of Conduits:**Open / Surface Conduit System:**

Wherever, specifically called for, surface conduit system shall be adopted conduits shall be run in square and symmetrical lines. Before the conduits are installed, the exact route shall be at site and approval of the user shall be obtained. Conduits shall be fixed by heavy gauge GI saddles, secured to suitable raw plugs, at an interval of not more than 1 meter. Wherever couplers, bends couplers,

bends or similar fittings are used, the saddles shall be provided on either side at a distance of 30 cm from the centre of such fittings. Conduits shall be joined by means of screwed couplers and screwed accessories only. In long distance straight runs of conduits, inspection type couplers or running type couplers with jam nut shall be provided. Threading shall be long enough to accommodate pipes to the full threaded portion of the couplers, and accessories. Cut end of conduits shall have neither sharp edges nor any burrs left to avoid damage to the insulation of the conductors. Bends in conduit runs shall be done by bending conduits by pipe bending machine or any other suitable device as far as possible. Bends which cannot be negotiated by pipe bends shall be accompanied by introducing solid bends, inspection bends or cast iron inspection box. The radius of solid bends shall not be less than 7.5cm. Not more than three equivalent 90 deg bends shall be used in a conduit running from outlet to outlet. Bends shall be properly drained and ventilated to prevent sweating or condensation inside the pipes. The entire conduit opening shall be properly plugged with PVC stoppers/ bushes. The conduits shall be adequately protected against rust by applying two coats of approved synthetic enamel paint after the installation is completed. Wherever conduits terminate into point control box, outlet box, distribution board etc., conduits shall be rigidly connected to the box / board with check nuts on either side of the entry to ensure proper electrical and mechanical continuity. The entire conduit system after installation shall be bounded to the earth

4.7 Testing of electrical installations.

4.7.1 Testing of installation.

- a. The insulation resistance shall be measured by applying suitable pressure between earth and whole system of conductors or any section thereof with all fuses in places and all switches closed and except in earthed concentric wiring all lamps in position or both poles of the installation otherwise electrically connected together, where a direct current pressure of not less than twice the working pressure provided that it does not exceed 500 volts for Medium Voltage circuits. Where the supply is derived from added resistance, the working pressure shall be deemed to be that which is maintained between the outer or phase conductor and the neutral the three wire (A.C. or D.C.) or a poly phase system, the neutral pole of switch is connected to earth direct.
- b. The insulation resistance measured as above shall not be less than 50 mega ohms divided by the number of points on the circuits, provided that the whole installation shall be required to have an insulation resistance greater than one mega ohm.
- c. Control rheostats, heating and power appliances and electric signs, if required, be disconnected from the circuit during the test but in the event of the insulation resistance between the case or frame work and all live parts of each rheostat appliances and sign shall not be less than that specified in relevant British Standard Specifications or where there is no such specification shall

not be less than a half mega ohm.

- d. The insulation resistance shall also be measured between all conductors connected to one pole or phase conductor of the supply and all the conductors connected to the middle wire or the neutral or to the other pole or phase conductors of the supply and its value shall not be less than specified in sub clause (b).

4.7.2 Testing of Earth continuity path:

The earth continuity conductor including metal conduits and metallic envelopes in all cases shall be tested for electric continuity and the electrical resistance of the same along with the earthing lead but excluding any added resistance or leakage circuit - breaker measured from the connection with the earth electrodes to any point in the earth continuity conductor in the completed installation shall not exceed one mega ohm.

Testing of polarity of non -linked single pole switches:

- a. In a two wire installation, test shall be made to verify that all non -linked single pole switches have been fitted in the same conductor throughout and such conductor shall be labeled or marked for connection to an outer or phase conductor or to the non -earthed conductor of the supply.
- b. In a three wire or a four wire installation, a test shall be made to verify that every non-linked single pole switch is fitted in conductor which is labeled or marked for connection to one of the outer phase conductors of the supply.

4.7.3 Light Fixtures

- The fixture shall be complete with the required lamp / fluorescent tube and the starting inductor
- The fixture shall be high P.F correction Type
- All electronic chokes shall be with less than 8% harmonic output
- All this shall have proper earthing facility to take care for eddy currents
- The fixtures to be fixed to the false ceiling shall have a clip-on mechanism for fixing
- The fittings shall be mounted with G.I chain fixed with anchor bolt to the ceiling
- All the fixture shall be with loop in or loop out wiring facility

4.8 Technical Specification - Earthing System

4.8.1 General

All non-current carrying metal parts of the electrical installation shall be earthed as per IS: 3043 and with subsequent amendments. All metal conduits, trunking, cable sheathes, switchgear, distribution boards, meters, light fixtures, fans and all other metal parts forming part of the work shall be bonded together and connected by two separate and distinct conductors to earth electrodes.

4.8.2 Special instruction:

The soil at the area of location require any special earthing to achieve suitable value, namely chemical type earthing bidders are requested to consider the same.

4.8.3 Earthing Conductors

All earthing conductors shall be of high conductivity copper or GI as required /specified and shall be protected against mechanical damage and corrosion. The connection of earth continuity conductors to earth bus and earth electrode shall be strong and sound and shall be easily accessible. The earth conductors shall be rigidly fixed to the walls, cable trenches, cable trays or conduits and cables by using suitable clamps.

- Main earth bus shall be taken from the main medium voltage panel to the earth electrodes. The number of electrodes required shall be arrived at taking in to consideration the anticipated fault on the medium voltage network.
- All the sub-mains and sub-circuits shall be provided with earth continuity conductors as specified and connected to the main earth bus. Earthing conductors for equipment shall be run from the exposed metal surface of the equipments and connected to a suitable point on the sub -main or main earthing bus. All switch boards, distribution boards and isolators, disconnect switches shall be connected to the earth bus. Earthing conductors shall be terminated at the equipment using suitable lugs, bolts, washers and nuts. All conduits, cable armor, raceways, rising mains, metal boxes, panel boards etc., shall be connected to the earth all along their run by earthing conductors of suitable cross sectional area. Sprinkler pipes, water pipes, steel structural elements, lighting conductors shall not be used as a means of earthing an installation.

The electrical resistance of earthing conductors shall be low enough to permit the passage of fault current necessary to operate a fuse / protective device / a circuit breaker and shall not exceed 10hm.

4.8.4 Earthing Electrodes

4.8.4.1 Plate Electrode

Plate electrodes shall be made of copper plate of 3.15 mm thick and 60 x 60 cm size. The plate shall be buried vertically in ground at a depth of not less than 2 meters to the top of the plate, the plate being encased in salt and charcoal to a thickness of 15 cm all round. It is preferable to bury the electrode to a depth where subsoil water is present. Earth leads to the electrode shall be laid in a GI pipe and connected to the plate electrode with brass, bolts, nuts and washers. A GI pipe of not less than 25mm dia. shall be placed vertically over the plate and terminated in a funnel at 5 cms above the ground. The funnel shall be provided with a wire mesh. The funnel shall be enclosed in a masonry chamber of 45 cm x 45 cm x 30 mm dimensions. The chamber shall be provided with heavy duty C.I. cover and C.I. frame / MS Cover / frame if vehicle movement area. The earth station shall also be provided with a suitable permanent identification using painting / or engraving. Bidders are requested to use standard and similar specification and design already used in the site.

4.8.4.2 Pipe Electrode

Pipe electrode shall comprise of a 2.5 mtr long 38mm dia class 'B' GI pipe buried vertically in a pit of 35cm x 35 cm size and filled with alternate layers of charcoal, salt and connected at the top to a Class 'B' GI pipe of 25mm, 1 meter long with a funnel at the other end, 5 cms above the ground. The earth lead shall be properly bolted to the pipe electrode with brass bolts, nuts and washers. The funnel and earth lead connections shall be enclosed in a masonry chamber of 45m cms x 45 cms. The chamber shall be provided with heavy duty C.I. cover and C.I. frame / MS Cover / frame if vehicle movement area. Proper permanent identification tag / label shall be provided for each electrode using painting.

4.8.5 Testing

On the completion of the entire installation, test on earth resistance of electrode shall be conducted. All meters, instruments and labor required for the tests shall be provided by the contractor. The test results shall be submitted to the Client for approval. Tests shall be conducted in the presence of Engineer -in-charge.

5. Comfort Air-conditioning

6.1 Scope:

The scope of work includes Supply, installation, testing and commissioning the equipments and systems till the end of defect liability period.

Cooling system split AC of suitable nominal cooling capacity fitted with hermetically sealed compressors operating on Non CFC suitable for wall mounting operating on single phase / three phase AC supply complete with remote control capable of performing

- Cooling
- Dehumidifying
- Air circulating
- Filtering

6.2 Installation of split AC includes:

Mounting / Fitting indoor & outdoor unit at their respective location.

Laying Refrigerant pipelines as required at site and connecting both the unit after drilling hole in the wall. The thickness of Cu. Tubing shall not be less than 0.80mm

Insulating the suction pipe with expanded polythene foam tubing.

Supply & Installation of drain pipe, to drain out the condensate water being formed in the indoor unit.

**VARIABLE SCROLL DIRECT EXPANSION TYPE CLOSE CONTROL PRECISION
PACKAGED UNITS**

6. General

Modular construction Close Control Precision air conditioning unit suitable for operation on R-410a refrigerant with Bottom discharge arrangement consisting of inlet filter, direct drive Backward curved Plug fans with Electronically communicated Motors, Variable capacity Scroll Compressor with brushless DC Inverter motor, Direct Expansion Cooling Coil, Multistage Heater banks & Variable Capacity Electrode type Humidifier to maintain humidity inside the space, condensate drain pan of stainless steel construction, Microprocessor panel, programmable control complete with LCD display. The unit shall be suitable for operation on 415 V, 50 Hz, AC supply.

7. Unit Base & Casing

Base panel shall be constructed out of sandwich panels of galvanized steel and painted with epoxy powder. All four side panels (including front door) shall be double skinned Sandwich panels with glass wool internal insulation (fire insulation class: 0). The panels shall be insulated on the inside with minimum 32 Kg/cum glass wool, for fire insulation class A0. Unit shall be complete with space for refrigeration equipment, fans, cooling coils, liquid receiver and multistage strip heaters and modulating Humidifiers. Unit shall be provided with welded tubular steel floor stand with adjustable legs and requisite vibration isolation pads.

8. Fan

Units shall have min. two plug fans with High efficiency, external rotor electronically commutated (EC) motor with integrated electronics, True soft start characteristics (inrush current lower than operating current), Backward curve, corrosion resistant aluminum fan wheel, Maintenance free design and construction. The fan section shall be designed for higher air flow. The fan shall be protected over temperature of motor, electronics, locked rotor protection, short circuit of motor output. Fans are IP54, Protection class F. Only EBM/equivalent make approved.

9. Air Filtration

The filter cells are made of MERV8 following ASHRAE 52.2 (45% by ASHRAE 52.1) or G4 following EN779, located within the cabinet, and accessible from the front of the unit.

Clogged filter alarm should be available.

10. Refrigerant

All units equipped with direct expansion circuit are suitable for R410A refrigerant.

11. Evaporator Coil

The inclined evaporator coil is manufactured from copper tubes with 7.2 mm, mechanically bonded to hydrophilic painted Al fins, with a stainless steel condensate drain pan. The large face area/low velocity coil allows precise control of temperature and humidity during cooling and dehumidification, and is designed to optimise fluid velocity and minimise pressure drop.

12. Refrigeration Circuit

One/Two refrigeration circuit, incorporating a high efficiency variable speed brushless DC fully hermetic Scroll compressor with crankcase heater, safety valve, filter drier, moisture indicating sight glass and Electronic Expansion Valve.

Each compressor is equipped with pre-set high and low pressure switches for protection against high condensing and low evaporating temperatures. The low pressure switch features an automatic reset (with an adjustable delay for winter start-up).

Compressors & the humidifier shall be isolated from the air flow in the version with downward flow, and in the air flow in versions with upward output. The compressor shall be charged with mineral oil and designed for operation on environment friendly refrigerant R410a.

The refrigerant circuit comprises:

Liquid receiver

Electronically-controlled Expansion valve

Solenoid valve for shutting off the refrigerant liquid

Refrigerant liquid flow indicator

Solid cartridge freon filter

Safety valve

High pressure safety pressure switch with manual reset

Low pressure switch with automatic reset

Shut-off valves for external connections

Copper refrigerant pipes with anti-condensation insulation on the suction line

Pipe taps on suction and delivery side and charging valve on liquid side.

Each Compressor to have its own independent Evaporator and Condenser.

Expansion device: Electronic Expansion Valve (EEV)

The unit shall have Electronic Expansion Valve, which offers the following advantages:

Fast, high precision adjustment of refrigerant flow;

Fast arrival of the unit at steady-state conditions;

Superheating value remains constant in variable thermal load conditions;

Efficient operating conditions of the compressor, especially in the presence of low room temperatures;

Wide working range with consequent extension of the unit's operating limits. These properties result in enhanced performance of the unit and make it possible to obtain very significant energy savings.

13. Air Cooled Condenser

Condenser shall be air-cooled type, suitable for outdoor installation and shall be suitable for operating at high ambient of 45 deg C db and at low ambient of upto 0 deg C db temperatures. Condenser shall be in copper tube & aluminum fins construction.

- 14.** The condenser fan/s shall be of propeller type with max 1000 RPM variable voltage electric motor complete with IP-54 protection with only EBM make. Motor shall be speed controlled to ensure a stable operation for varying ambient; by a factory fitted direct acting head pressure activated stepless variable speed drive. The condenser shall be complete with provisions for refrigerant piping connections, shut off valves and any other standard accessories necessary with the equipment supplied. Each Circuit to have its independent set of condenser coil and Fans is separate casing.

15. Electric Strip heaters

Each packaged unit shall be provided with multistage electric heaters with heating elements constructed from a non-oxidable material. Electric strip heaters shall be of the low temperature totally enclosed strip type fitted with radiation fins and suitable for operating at black heat. If overheating occurs, a safety thermostat should cut off the voltage supply to the heaters and triggers an alarm.

16. Humidifier

Boiling water in a polypropylene steam generator shall provide humidification. The humidifier shall be capable of providing continuous auto modulation in steam generation from 30-100% as per the steam requirement per hour. The humidifier shall be fully serviceable with replaceable electrodes. Waste water shall be flushed from the humidifier by initiation of water supply valve via U-trap. The microprocessor should be able to display the current drawn and actual steam output in the microprocessor.

17. De-Humidification

De-humidification cycle shall operate by reducing the speed of EC fan to reduce ADP of coil. Hence, by reduction of fan speed there shall be additional power saving.

18. Water Sensor

The system shall be provided with relevant water detection kit and each of the sensor must be capable to detect individually any water below the false floor near the unit, the sensor must be connected to the unit microprocessor thus enabling the controller to give an alarm incase of wet floor.

19. Microprocessor Control System

Logic Circuitry:

A microprocessor shall continuously monitor operation of each room. Air-conditioning unit shall continuously digitally display room temperature and room relative humidity, alarm on system malfunction and simultaneously display problem. When more than one malfunction occurs, flash fault in sequence with room temperature, remember alarm even when malfunction cleared, and continue to flash fault until reset.

Microprocessor to control the following functions:

Room temperature

Humidity

Speed of the delivery fans

Timing of compressors with automatic rotation

Alarm signal on two levels

Controlled automatic reset of high and low pressure alarms

Malfunctions:

Power Loss, Loss of Airflow, High Room Temperature, Low Room Temperature, High Humidity, Low Humidity, Supply Fan Overload, and Water Under Floor / Fire alarm.

The standby unit should immediately come in action in the event of any alarm/failure of the working unit without waiting for the temperature to increase to the high temperature limit thereby controlling the temperature of the data Centre.

The unit should also be capable of starting the standby unit incase the temperature is not able to achieve with the working units.

Automatic lead unit sequencing to extend equipment life and automatic rotation of standby unit should be part of the microprocessor itself. Microprocessor must be suitable to control multiple units if required with hard wiring which can be done at a later date.

In case of power failure the precision packaged unit shall start automatically without any body's intervention. Controllers shall be Microprocessor based with capability to generate alarm and networking of all units to rotate (working + standby) units, equalized run time capability (for 2 or 3 packaged units), programmable timer, with display of all parameters.

The 30-130% modulating brushless DC inverter compressors, in combination with EC fans, EEV, together with sophisticated control algorithm allows to reach top of performance required for close control applications.

Computer Generated Selection sheet shall be attached along with the offer. The same needs to be demonstrated incase required at the time of finalization.

Technical Specifications – Fire, Safety, Security, Surveillance and Building Management System

Scope:

The scope of work includes Supply, install, test, commissioning and maintaining the equipments and systems till the end of defect liability period.

1. BUILDING MANAGEMENT SYSTEM

SYSTEM DESCRIPTION & INPUT OUTPUT SUMMARY

- The system will consist of a flat, open architecture that utilizes high-speed communication protocol between all controlled and controlling devices.
- Microprocessor based Direct Digital Distributed Controllers (DDC) shall interface with sensors, actuators and environmental control systems and carry out followings functions:
 - i. Individual input/output point scanning, processing and control.
 - ii. Centralized operation of the plant (remote control).
 - iii. Dynamic graphic details of plant and building.
 - iv. Energy Management through optimization of all connected electrical and mechanical plants.
 - v. Alarm Detection and early recognition of faults.
 - vi. Time, event and holiday scheduling as well as temporary scheduling.
 - vii. Prevention of unauthorized or unwanted access.
 - viii. Communication interfaces and control.
- The control system shall be designed such that mechanical equipment will be able to operate under stand-alone control. In general, the operation of any controllers on the network shall not rely on any other controller for its functional operation. System controllers that require a master computer will not be considered. Function specific modules may be used to supplement the functionality resident in each controller. As such, in the event of a network communication failure or the loss of any other controller on the communication network, the control system shall continue to independently operate under local control of the resident program stored in nonvolatile memory as detailed herein. In such a case, each individual controller shall continue to perform basic functions until a network connection can be restored.
- The number of controllers for central plant room equipment's shall be decided by the contractor with a maximum capacity limited to 24 points per controller. Overall, the system shall be provided with 15% spare capacity, with spare of at least 15% points on each controller.
- There shall be one control station located in BMS Room. The computer shall be sized to cover the graphic display memory and planning information. The display shall be in the form of dynamic color graphics and text format with menu driven pop-up windows and help facility.

Reference Standards

Control system components shall be new and in conformance with the following applicable standards for products specified:

- ANSI/EIA 709.1 (LonTalk Protocol)
- Lon Mark Certified (Version 3.1 Guidelines)
- BACNet/IP

- Modbus
- UL 916 (Energy Management Equipment)
- OPC

Products

- Utilize standard components for all assemblies. Custom hardware, operating system, and utility software are not acceptable.
- All products (PCU's, TDCU's and ID's) shall contain LonWorks/BACNet/Modbus networking elements to allow ease of integration of devices from multiple vendors.
- All materials, equipment and software shall be standard components, regularly manufactured for this and other systems and custom designed for this project. All systems and components shall be thoroughly tested.

CENTRAL STATIONS HARDWARE

The Control stations shall comprise of Personal computers (PC) providing high-level operator interface with the system. The terminals shall be capable of providing the operator with the facility for remote system interrogation, control, and retrieval / storage of logged data, annunciation of alarms and reports, analysis of recorded data and the formatting of management reports.

- The control station shall consist of the following hardware with all of them suitable for the power supply voltage of 230 V AC $\pm$ 10%, 50 HZ $\pm$ 3%.
- PC with Core I7 Processor/2GB RAM/1TB Hard Disk
- 21" LCD Display
- Suitable Dot matrix printer for printing of Alarms
- Windows 7 operating system and other required software shall be included.

CENTRAL STATION SOFTWARE

A. Command & Operating Software

1. As a minimum, the menu driven command and operating software shall permit the operator to perform the following tasks with a minimum knowledge of the HVAC Control System provided and basic computing skills.

- i. Configure the network.
 - ii. Create control sequences.
 - iii. Graphical interface to systems.
2. Provide additional third party software to permit the operator to manage hard drive files such as access, delete, copy, modify, etc. The package shall be object oriented and permit the user to manage directories upon boot-up. The file management software shall organize directories and sub-directories using files, file folder objects.
3. On-Line Help. Provide a context sensitive, on-line help system to assist the operator in operation and editing of the system. On-line help shall be available for all applications and shall provide the relevant data for that particular screen. Additional help information shall be available through the use of hypertext.
4. Security. Each operator shall be required to log on to that system with a user name and password in order to view, edit, add, or delete data. System security shall be selectable for each operator. The system supervisor shall have the ability to set passwords and security levels for all other operators. Each operator password shall be able to restrict the operator's access for viewing and/or changing each system application, full screen editor, and object.

Each operator shall automatically be logged off of the system if no keyboard or mouse activity is detected. This auto log-off time shall be set per operator password. All system security data shall be stored in an encrypted format.

5. System Diagnostics. The system shall automatically monitor the operation of all HVAC control workstations, printers, modems, network connections, and nodes. The failure of these devices shall be annunciated to the operator.
6. Reports and Logs. Provide a reporting package that allows the operator to select, modify, or create reports. Each report shall be definable as to data content, format, interval, and date. Report data shall be archived on the hard disk for historical reporting. Provide the ability for the operator to obtain real time logs of designated lists of objects. Reports and logs shall be stored on the PC hard disk in a format that is readily accessible by other standard software applications including spreadsheets and word processing. Reports and logs shall be readily printed to the system printer. Data shall be able to transferable to other software packages so as to create custom reports.
7. Web Browser Access: The DDC system shall provide total integration of the facility infrastructure systems with user access to all system data, either locally over a secure Intranet within the building or by remote access by a standard Web Browser over the Internet.

B. Graphical Object-Oriented Programming Software

1. The system shall include a graphical object-oriented programming function which shall be used to create all control sequences utilized in programmable nodes (PN). The graphical object-oriented programming function shall provide programming elements to be connected together to create a logic diagram. The graphical object-oriented programming function shall include elements for mathematical, logical, timing, set point, display and input/output functions to create logic diagrams that represent sequences of operation for PNs.
2. Program elements shall be able to be combined into a custom template that can then be used as a standard function.
3. Program checkout and debug tools shall include display of real-time and/or simulated system variables and inter-object data on the programming screens. The user shall be able to assign fixed or variable values to inputs during the dynamic debugging of the control sequence.
4. The graphical programming tools shall provide the ability to print I/O lists, lists of standard network variables and lists of all parameters to be viewed by the HMI.
5. The programming software shall reside on each POT and OW server for programming and/or configuring each model of PN on the project. The applications shall be downloaded and executed at the appropriate nodes. The software shall allow for updated applications via the network from the OW.
6. DDC programs are to be provided to meet the control strategies as called for in the sequence of operation sections of these specifications. Each PN shall have available a full library of DDC algorithms, intrinsic control operators, arithmetic, trigonometric, logic, Proportional Control, Proportional plus Integral (PI), Proportional plus Integral plus Derivative (PID), and relational operators for implementation of control sequences. 2-POSITION, FLOATING, STANDARD I/O AND COUNTER INPUTS, TIME BASED DATA, CURVE FIT FUNCTION, PSYCHOMETRIC FUNCTIONS, INTEGRATION.
7. All DDC set points, gains, and time constants associated with DDC programs shall be available to the operator for display and modification via the POT, DDU or OW interface.

- C. Library of Applications: A library of control, application, and graphic objects shall be provided to enable the creation of applications and user interface screens. Provide the capability to cut & paste objects and libraries into applications for a node/system. Applications are to be created by selecting the desired control objects from the library, dragging or pasting them on the screen, and linking

them together, using a built-in graphical connection tool. Completed applications may be stored in the library for future use. Graphical User Interface screens shall be created in the same fashion. Data for the user displays is obtained by graphically linking the user display objects to the application objects to provide “real-time” data updates. Any real-time data value or object property may be connected to display its current value on a user display. Systems requiring separate software tools or processes to create applications and user interface display shall not be acceptable.

- D. Provide integral trend-logging presentation in the programming screen.
- E. Print capability, with page break reference tags to allow down to 8 ½”x 11” size paper
- F. Off-line simulations (step function, continuous run function, simulation of external inputs)
- G. Dynamic presentation of logic in on-line state (all intermediate values)
- H. Text to logic screens
- I. Memory monitoring
- J. Run-time capability
- K. Calculator objects, (basic stuff), including if-then-else, log, ln, exp, and trig functions.
- L. Recognize standard network variable type data (nvi) and create network variables to put on the network (nvo).
- M. Programming Objects
 - 1. Provide the capability to copy objects from the supplied libraries, or from a user-defined library to the user’s application. Objects shall be linked by a graphical linking scheme by dragging a link from one object to another. Object links will support one-to-one, many-to-one, or one-to-many relationships. Linked objects shall maintain their connections to other objects, regardless of where they are positioned on the page and shall show link identification for links to objects on other pages for easy identification.
 - 2. Configuration of each object will be done through the object’s property sheet using fill-in the blank fields, list boxes, and selection buttons. Use of custom programming, scripting language, or a manufacturer-specific procedural language for configuration will not be accepted.
 - 3. The software shall provide the ability to view the logic in a monitor mode. When on-line, the monitor mode shall provide the ability to view the logic in real time for easy diagnosis of the logic execution. When off-line (debug), the monitor mode shall allow the user to set values to

inputs and monitor the logic for diagnosing execution before it is applied to the system (step function and run mode, integral trend logging).

4. The system shall support object duplication within the Owner's database. An application, once configured, can be copied and pasted for easy re-use and duplication. All links, other than to the hardware, shall be maintained during duplication.

N. Object Libraries

1. A standard library of object function blocks shall be included for development and setup of application logic, user interface displays, system services, and communication networks.
2. The function blocks in this library shall be capable of being copied and pasted into the user's database and shall be organized according to their function. In addition, the user shall have the capability to group objects created in their application and store the new instances of these objects in a user-defined library.
3. Start-Stop Time Optimization Object. Provide a start-stop time optimization object to provide the capability of starting equipment just early enough to bring space conditions to desired conditions by the scheduled occupancy time. Also, allow equipment to be stopped before the scheduled un-occupancy time just far enough ahead to take advantage of the building's "flywheel" effect for energy savings. Provide automatic tuning of all start / stop time object properties based on the previous day's performance.

O. Application Specific Node Configuration software Tools: Provide application specific node configuration software tools that will permit the individual network nodes to be configured and commissioned with appropriate parameters. This software will reside on the POT.

P. Network Management

Network Management Software for Windows network management software tool shall be used to assign domain, subnet, and node addresses to nodes; configure all routers and repeaters; define network data connections between LonWorks®/BACNet Device/Modbus Device network variables, known as "binding;" and record binding data into node addressing tables, and create a database of all addressing and binding information for all nodes on the network.

DIRECT DIGITAL CONTROLLER

DIRECT DIGITAL CONTROLLER (DDC) HARDWARE REQUIREMENT:

- 1) DDC controllers shall be capable of fully “stand- alone” operation i.e. in the event of loss of communication with other DDC’s or Control Station, they shall be able to function on their own. The controllers shall be LonWorks/BacNet/Modbus based products.
- 2) The controllers shall consist of minimum single 32-bit microprocessors for reliable throughput, based with EEPROM based operating system (O.S.).
- 3) The memory available to the controller board as working space for storage of the Operating system software and data files shall be decided on the basis of number of points being controlled by them.
- 4) The controllers shall be UL listed and conforming to CE (Euro norms).
- 5) Controllers requiring nickel-cadmium/lithium battery to support the full operation of the RAM, in addition to the above battery reserve a further battery shall be provided to retain the RAM for a minimum of 2 days, after the expiration of the standard battery

A low battery alarm shall be provided with each Controller and with an indication at the Control Station.

In case the memory is stored on EEPROM, the battery backup will not be required.

- 6) The Controllers shall have proportional control, Proportional plus Integral (PI) Control, Proportional plus Integral plus Derivative (PID) Control, Two Position Control and Time Proportioning Control and algorithms etc, all in its memory and all available for use by the user, i.e. all the control modes shall be software selectable at any time and in any combination. The analog output of Proportional Control, PI Control, and PID Control shall continuously be updated and output by the program shall be provided. Between cycles the analog output shall retain its last value. Enhanced integral action in lieu of Derivative function shall not be acceptable.
- 7) The controllers shall have a resident real time for providing time of day, day of week, date, month and year. These shall be capable of being synchronized with other clocks in the network.

Back-up power shall support the clock. Upon power restoration all clocks shall be automatically synchronized.

- 8) The microprocessor based DDC’s shall be provided with power supply, A/D and D/A converters, memory, and capacity to accommodate a maximum of 18 input/output (I/O) hardware points (with or without an expansion board). DDC’s with a lower capacity of points shall preferably be provided at the locations with relatively less input/output points.
- 9) If the controllers provided by the contractor have the configurable plug in function cards, then the following minimum specifications shall have to be met:

- i) In addition to the basic outstation, a minimum of two slots shall be provided for the insertion of plug-in function cards.
 - ii) The cards shall provide for analog or digital, input or output, hardwired connections to the installed plant.
 - iii) The quantity and combination of these cards shall be determined by the requirements of the plant in that location with the concurrence of the Owner/ Consultant.
- 10) The DDC's shall have 15% spare capacity (digital/analog input/output) to give flexibility for future expansion.
- 11) All DDC controllers shall be capable of handling voltage, milli-ampere, resistance or open and closed contacts inputs in any mix, if required.

Analog inputs/outputs of the following minimum types shall be supported:

- a) 4-20 mA.
- b) 0-1 volts.
- c) 0-10 volts.
- d) 0-5 volts, and
- e) 2-10 volts.
- f) Resistance Signals (either PTC or NTC) (PT 100, PT 1000, PT 3000, Balco 500, NI 1000)

Digital input/output types to be supported shall be, but not limited to the following:

- i) Normally-open contacts.
 - ii) Normally-closed contacts. Modulating outputs shall be true proportional outputs and not floating control type.
- 12) Controller's packaging shall be such that complete installation and check out of field wiring can be done prior to the installation of electronic boards.

DATA COMMUNICATION

The communication between controllers shall be via a dedicated communication network as per LonWorks/ BACNet/ Modbus recommended standards. Controllers microprocessor failures shall not cause loss of communication of the remainder of any network. All networks shall support global application programs, without the presence of a host PC.

Each controller shall have equal rights for data transfer and shall report in its predetermined time slot. There shall be no separate device designated as the communication's master. Those systems using dependent controllers shall be pointed out by the contractor and a dual redundant transmission media with automatic switching and reporting in the event of line faults will have to be provided.

The communication network shall be such that

- 1) Every DDC must be capable of communicating with all DDC's.
- 2) Network connected devices with no messages to transmit shall indicate "No failure" message each cycle. Lack of this message after successive retries shall constitute a communication or device failure

FIELD DEVICES

TEMPERATURE SENSOR

Temperature sensors for space, pipes and ducts, shall be of the Resistance Temperature detector (RTD) type or thermistor. These shall be two wire type and shall conform to the following specifications:

- 1) The sensor housing shall plug into the base so that the same can be easily removed without disturbing the wiring connections.
- 2) The sensors shall not be mounted near any heat source such as windows, electrical appliances, etc.
- 3) The temperature sensors may be of any of the following types:
 - a. PT 100, PT 1000, PT 3000
 - b. NI 100, NI 1000
 - c. Balco 500
 - d. Thermistor
 - e. NTC1800

HUMIDITY SENSOR

- Space and duct humidity sensors shall be of capacitance type with an effective sensing range of 10% to 90% RH. Accuracy shall be + 3% or better. Duct mounted humidity sensors shall be provided with a sampling chamber.
- Wall mounted sensors shall be provided with a housing. The sensor housing shall plug into the base so that the same can be easily removed without disturbing the wiring connections. The sensors shall not be mounted near any heat source such as windows, electrical appliances, etc.

CONDUITS AND WIRING

Prior to laying and fixing of conduits, the contractor shall carefully examine the drawings indicating the layout, satisfy himself about the sufficiency of number and sizes of conduits, sizes and location of conduits and other relevant details. Any discrepancy found in the drawings shall be brought to the notice of Architect/Engineers Any modifications suggested by the Contractor shall be got approved by the Architect /Engineers before the actual laying of conduits is commenced.

CONNECTIONS All jointing methods shall be subject to the approval of the Architect/Engineer. Separate conduits shall run for all power wiring.

The threads and sockets shall be free from grease and oil. Connections between conduit and controller metal boxes shall be by means of brass hexagon smooth bore bush, fixed inside the box and connected through a coupler to the conduit. The joints in conduits shall be smooth to avoid damage to insulation of conductors while pulling them through the conduits.

2. *IP CCTV Surveillance System*

The IP based Closed Camera surveillance system shall use state of the art technology and shall comply with the UL standards.

The IP based systems shall either use integrated or encoders for their camera systems and shall be from the same manufacturer as that of the IP Digital Video management system provider.

All the cameras proposed shall be power over Ethernet with option for 24 Vac input.

The system shall support open architecture and shall not have any proprietary equipments to ensure future compatibility with third party systems

The scope shall include supply, installation, testing, commissioning and maintenance of the IP based CCTV system proposed.

Scope shall include supply , installation , testing and commissioning of cameras, managed network switches / network video recorders/severs, Digital Video Management Software (DVMS) software workstations, monitors, racks, consoles cables, UPS, etc. The specifications for these components shall be as mentioned below.

The location of the Cameras shall be such that no blank spot is observed in the Server Room Area and all the external equipments shall be under CCTV Surveillance.

Indoor High Definition Camera (Internal Server & other Critical Areas)

1. 1/3" Progressive High Definition CMOS Sensor
2. Wide dynamic range
3. Minimum Illumination: Color 0.1 lux and B/W 0.03 lux
4. 6mm fixed, Auto Iris lens
5. Adjustable Horizontal coverage between 40° to 110°
6. Automatic Gain Control, White balance: On/Off
7. 3D Noise reduction: ON/Off
8. Tamper Detection: On/Off
9. Compression: Dual stream, H.264
10. Resolution: 800 x 600 @ 25FPS on stream 1 and stream 2 respectively at the same time
11. Bandwidth: 64Kbps to 8Mbps
12. Built-in Multi-zone motion detection
13. Unicast, Multicast, RTP, TCP, UDP, HTTP, IGMP, ICMP, DHCP, DNS, POE
14. 10/100 Base-T Auto sensing, Half/Full Duplex (RJ45)
15. S/N Ratio: >50db
16. Power: 802.3af class 3 PoE and 12VDC/24VAC auto sensing
17. Vandal resistant clear bubble surface mount enclosure
18. Operating Temp: 0° C to 50° C
19. Humidity: 90% (Non-condensing)
20. UL, CE and FCC certified
21. ONVIF S Compliance

Network Video Recorder / Server supporting 64 video streams

- The Network video recorder / sever shall support a minimum of 16 cameras and shall be possible to expand upto 64 video inputs per network video recorder / server.
- The total NVR shall have an internal hard disc capacity of upto 30 days of video storage (whichever is maximum) at 4CIF resolution, 25 frames per second for the installed cameras with provision for 25% additional cameras in RAID configuration. When the number of cameras increases further, the storage should be upgradeable in modular fashion.
- The NVR shall support central archive storage of a SAN or NAS storage solution in case of extended storage. Offered software shall provide automatic scheduled backup facility so as selected cameras, selected time video shall be backed up on central storage at specified time.
- The NVR / server shall be able to record individual camera with selectable frame rate
- The NVR / server shall support remote administration, monitoring and management of video, audio and data.
- The NVR shall support health and event monitoring of the system.
- The NVR shall support logical camera grouping.

- The NVR / Server shall have the bare minimum specs as mentioned below – vendors to select the server as per their system requirement but shall have these bare minimum specs standard.
- The NVR / server should at least support H.264, MPEG 4 & MJPEG formats
- The network video recorder shall be able to record videos in CIF(352 x 288) ,VGA (640 x 480) 4CIF/D1 CIF resolutions (720 x 576), HD 720 (1280 X 720) & HD 1080 (1920 X 1080).
- Necessary operating system and the system software licenses required shall be included.

Digital Video Management System (DVMS) software features

- The software shall manage and support video from IP cameras and encoders through the Ethernet.
- Remote administration, monitoring and management of video and audio, the software shall be in a position.
- The DVMS software shall be able to display a minimum of 16 videos on the screen. It shall be possible to get the following information.
 - Host name
 - IP address
 - Serial number
 - Software version
 - Trap destination
 - Model number
 - System name
 - Number of hard drives on system
 - Hard drive serial numbers
 - Hard drive temperatures
 - Misc. hard drive status'
 - Number of system cameras
 - Camera names
 - Camera input numbers
 - Camera status (recording, no signal, scene loss)
 - Number of days of video storage on disk
 - Licensed product name
 - Product ID
 - Camera list change
 - Service changes
 - System restart
 - Hard drive event
 - System shutdown

- Alarm events
- Video deleted sooner than expected
- Windows events
- The DVMS software shall allow users to monitor and manage any IP devices through a single digital video surveillance application.
- The DMS shall support open architecture platform expands the capabilities of legacy devices and maximizes investments in current and future security technology.
- The DVMS shall support third-party applications, video analytics and data transaction information.
- The cameras shall be provided for all the entry doors, corridors & server rooms. The UPS, panel & electrical room will also be monitored.

3. ACCESS CONTROL SYSTEM

Biometric Finger Scan Reader

FEATURES	MINIMUM REQUIRED PARAMETERS
Transmission Frequency	13.56 MHz
Technology	iClass
Security	64 bit authentication keys. The data flow between card & Reader should be encrypted
Graphical Display	LCD display
Function	Should be configured as a Reader – Enroller, Enroller Only & Reader Only (All three are mandatory)
Enrollment of fingerprint templates iClass Smart Cards	Yes
Read Range	Minimum 3.5”
Operating Voltage	10 – 12V DC
Operation	Indoor use
Housing	Polycarbonate
Fingerprint Sensor	Optical
Sensor Resolution	500 dpi
Timing	Fingerprint Capture: Less than 2 Sec Verification of captured finger: Less than 1 Sec
False Acceptance Rate	Less than 0.01%
False Rejection Rate	Less than 0.01%
Fingerprint Enrollment Software	Yes
Technology Compliance	iClass 15693 & 14443B
Certifications	UL
Operating Temperature	0 deg C to 50deg C
Operating Humidity	10% to 90% relative humidity (Non-Condensing)

Smart Card Reader

FEATURES	MINIMUM REQUIRED PARAMETERS
Transmission Frequency	13.56 MHz

Technology	iClass
Security	64 bit authentication keys. The data flow between card & Reader should be encrypted
Audio Visual Indication	Yes
Card Compatibility	iClass 15693 & 14443B
Operating Voltage	10 – 12V DC
Operation	Indoor use
Cable Distance	150 meters (Wiegand)
Read Range	Minimum 3”
Certifications	UL
Operating Temperature	0 deg C to 45 deg C
Operating Humidity	10% to 90% relative humidity (Non-Condensing)

Controller

FEATURES	MINIMUM REQUIRED PARAMETERS
Reader Inputs	Two
Universal Inputs	Two
Tamper Input	One
Digital Lock Inputs	Two
Processor	50 MHz with 128 MB RAM and 32 MB Flash
Processor For Reader Inputs	Yes (Dedicated Processor for each Reader)
Communication	10/100 Ethernet Port
Memory	Minimum 96000 personnel Records
Area Lockdown Support	Yes
Real Time Clock	Yes
Encryption	64 bit
Visual Indicator	Yes
Mounting	Wall / Ceiling Mount
Battery Backup	5 hours
Technology Compatibility	Wiegand
Card Reader Power	5V DC & 12V DC (Jumper Selectable)
Wiring Distance	150 meters (Wiegand)
Indicator LED	Yes
Push Button Switches	Yes (For clearing the memory & Resetting the IP Address)
Offline Mode Operation	Yes (In the event of Network failure)
Enclosure	Yes
Certifications	UL
Operating Temperature	0 deg C to 45 deg C
Operating Humidity	10% to 80% relative humidity (Non-Condensing)

Access Control Software: The Access Control Software should have the following Specifications:

1. Compatibility with any Windows Operating System
2. Compatibility with MYSQL / SQL / ORACLE
3. Support for TCP/IP Communication
4. Provision for Alarm Monitoring for Battery, Mains Supply, Door Opened too Long, Door Forced Opened, Unauthorized Swipe & Controller Tampering
5. Support for unlimited number of Card Database & Transactions
6. Specify Card Activation & Expiry Date

7. Support for Biometric, Pin & Smart Card Applications
8. Management of Dual Access Levels to a single Card
9. Remote Locking & Unlocking of Doors
10. Remote management of Controllers
11. Customization of Door User time for every card holder
12. One Client License
13. Two Stages of Alarm Management (Acknowledgement on Receipt & Closure on Investigation)
14. Management of Minimum 100 Readers
15. Access Privileges on the basis of Time & Date
16. Creation of holiday schedules to cover maintenance & Vacations / Holidays
17. Setting of Time / Date from Client workstation
18. Permission to activate any control output for a specific event such as alarm
19. Programmable Shunt time to control the door opening time
20. Area Control by using Hard Anti Pass back, Soft Anti Pass back, Timed Anti Pass back, Occupancy Limit, Multi man principle, Area Lock down, Threat level conditioning=
21. Alarm Management
22. Automatic User Log off
23. Cardholder Management & Enrollment
24. Creation & Maintenance of User Database
25. Assignment of Access Privileges

Time Attendance Software: The Time – Attendance Software should have the following Specifications

1. Compatibility with Windows Operating System
2. Function in a multi user working environment
3. Provide intranet viewing facility for time-attendance
4. Support web-based reporting
5. Support IE-6 or Netscape Navigator
6. Configure readers for IN swipe & OUT swipe
7. Capable of managing sites, branches, departments, Grades, Employee types & Batch numbers
8. Record the working hours on the basis of calculating the difference between first & last swipe
9. Capable of calculating overtime working hours
10. Generation of various types of Reports: User Activity Log, Alarm History Log, Muster Reports, Door Status Report, Alarm Point Status Report, Controller Status Report, Workstation Status Report, Event History Log, Invalid Attempt Log, Valid Access Log,
All Personnel Report, Disabled Personnel Report, Personnel by Department Report, Personnel by Area Privileges Report, Lost Card Report, Input/ Output Status Report, Schedules Report, Company Listing Report, Termination Report, Badge Pending Expiration Report, Cards Not Used in x days (Deadbeat Report), All Doors Report, All Events Sorted by Door, All Events Sorted by Person
11. Operate for financial year as well as calendar year, as per the requirement of the user
12. Facilitate leave types like Casual, Sick, Earned, maternity, Compensatory, Special leave & without pay leave
13. Provide facility for online leave authorization
14. Configure shifts for each employee with overnight shift Management
15. Manual Override
16. Privileges to the top management like attendance marked for single swipe etc

4. FIRE ALARM SYSTEM

MAIN FIRE ALARM CONTROL PANEL (FACP)

- A. The main FACP Central Console shall contain a microprocessor based Central Processing Unit (CPU). The CPU shall communicate with and control the following types of equipment used to make up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, control circuits, and notification appliance circuits, local and remote operator terminals, printers, annunciators, and other system controlled devices.
- B. Information is critical to fire evacuation personnel, and it contains large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details. A host of other options are available, including single- or Multichannel voice; firefighter's telephone; LED, LCD, or PC based Graphic annunciators; fire or integration networking; advanced detection products for challenging environments, and many additional options.

PANEL COMPONENTS & FUNCTIONS

The control panel(s) shall be a multi-processor based networked system designed specifically for fire, smoke control, extinguishing agent releasing system if necessitated, with integration modules for BMS or any third party control/annunciation. The control panel shall be UL/FM listed. The control panel shall include all required hardware, software and site specific system programming to provide a complete and operational system. The control panel(s) shall be designed such that interactions between any applications can be configured, and modified. The control panel(s) operational priority shall assure that life safety takes precedence among the activities coordinated by the control panel.

The control panel shall include the following capacities:

- Support up to minimum 99 devices
- Support up to minimum 198 analog/addressable points.
- Support multiple communication ports and protocols
- Support up to a minimum of 540 chronological events.

The network of control panels shall include the following features:

- Ability to download all network applications and firmware from the configuration computer from the configuration computer from a single location on the system.
- Provide electronic addressing of analog/addressable devices.
- Provide an operator interface control/display that shall annunciate command and control system functions.
- Provide an internal audible signal with different programmable patterns to distinguish between alarm, supervisory, trouble and monitor conditions.

- Provide a discreet system control switch provided for reset, alarm silence, panel silence, drill switch, previous message switch, next message switch and details switch.
- Provide system reports that provide detailed description of the status of system parameters for corrective action or for preventative maintenance programs.
- Reports shall be displayed by the operator interface or capable of being printed on a printer. Provide an authorized operator with the ability to operate or modify system functions like system time, date, passwords, holiday dates; restart the system and clear control panel event history file.
- Provide an authorized operator to perform test functions within the installed system.
- The control panel shall contain a standby power supply that automatically supplies electrical energy to the system upon primary power supply failure. The system shall include a charging circuit to automatically maintain the electrical charge of the battery.

Operator's Interface

The system shall be designed and equipped to receive, monitor, and annunciate signals from devices and circuits installed throughout the building. Standard LED annunciator may be combined in common enclosures provided that the groups of LED's comprising each of the required annunciator are separated from one another (Detection, Supervisory, Status, and Security) and clearly labeled. A minimum 640-character LCD display shall be part of the main control panel for easy alarm reading and understanding. Receipt of alarm, trouble, and supervisory signals shall activate integral audible devices at the control panel(s) and at each remote annunciation device. The integral audible devices shall produce a sound output upon activation of not less than 85 dBA at 10 feet.

The annunciator shall contain the following system status indicators:

LCD character Backlit Liquid Crystal Display

- System Normal Indicator
- System Common Alarm Indicator
- System Common Trouble Indicator
- System Common Supervisory Indicator
- System Ground Fault Indicator
- System Common Security Indicator
- System Disabled Point(s) Indicator
- System Reset Switch with Indicator
- System Alarm Silence Switch with Indicator
- System Trouble Silence Switch with Indicator
- System Message Queue Scroll Switches.

Digit Keypad to Enable/Disable System and Functions

Power Supply

System power supply(s) shall provide multiple powers limited 24 VDC output circuits as required by the panel. Upon failure of normal (AC) power, the affected portion(s) of the system shall automatically switch over to secondary power without losing any system functions. Each system power supply shall be individually supervised. Power supply trouble signals shall identify the specific supply and the nature of the trouble condition.

All standby batteries shall be continuously monitored by the power supply. Low battery and disconnection of battery power supply conditions shall immediately annunciated as battery trouble and identify the specific power supply affected. All system power supplies shall be capable of recharging their associated batteries, from a fully discharged condition to a capacity sufficient to allow the system to perform consistent with the requirements of this section, in 48 hours maximum.

All AC power connections shall be to the building's designated emergency electrical power circuit and shall meet the requirements of NFPA 72 - The AC power circuit shall be installed in raceway. The power circuit disconnect means shall be clearly labeled FIRE ALARM CIRCUIT CONTROL and shall have a red marking. The location of the circuit disconnect shall be labeled permanently inside the each control panel the disconnect serves.

Power supply for all input & output devices to be driven from main Fire Alarm Panel.

Reports

The system shall provide the operator with system reports that give detailed description of the status of system parameters for corrective action, or for preventative maintenance programs. The system shall provide these reports via the main LCD, and shall be capable of being printed on any system printer.

The system shall provide a report that gives a sensitivity listing of all detectors that have less than 75% environmental compensation remaining. The system shall provide a report that provides a sensitivity (% Obscuration per foot) listing of any particular detector.

The system shall provide a report that gives a listing of the sensitivity of all of the detectors on any given panel in the system, or any given analog/addressable device loop within any given panel.

The system shall provide a report that gives a chronological listing of up to the last 540 system events.

The system shall provide a listing of all of the firmware revision listings for all of the installed network components in the system.

Field Mounted System Components

Multi-sensor Photo Thermal Detector:

The Multisensor or multitech smoke detector which will have both photoelectric as well as thermal detection elements shall have inbuilt microprocessor, and shall be capable of taking an independent alarm decision. The scattering of smoke particles shall activate the photo sensor. Each intelligent addressable smoke detector's sensitivity shall be capable of being programmed electronically from Control Panel without any extra tools as: most sensitive, more sensitive, normal, less sensitive or least sensitive.

Detector Bases:

The bases shall be easy to install and mount and shall be of standard type or isolator base type or sounder base type. The sounder base shall be used where local or group alarm signaling is required. The sounder base emits a audible alarm when there is fire. The base shall, contain no electronics and support all series detector types.

Manual Stations

The fire alarm station shall be of polycarbonate construction and incorporate an internal toggle switch. A locked test feature shall be provided. The station shall be finished in red with silver "PULL IN CASE OF FIRE" lettering.

Intelligent Modules

The personality of multifunction modules shall be programmable at site to suit conditions and may be changed at any time using a personality code downloaded from the Analog Loop Controller. The modules shall have a minimum of 2 diagnostic LEDs mounted behind a finished cover plate. A green LED shall flash to confirm communication with the loop controller. A red LED shall flash to display alarm status. The module shall be capable of storing up to 24 diagnostic codes, which can be retrieved for troubleshooting assistance. Input and output circuit wiring shall be supervised for open and ground faults.

Control Relay Module:

The Control Relay Module shall provide one form "C" dry relay contact rated at 2 amps @ 24 Vdc to control external appliances or equipment shutdown. The control relay shall be rated for pilot duty and releasing systems. The position of the relay contact shall be confirmed by the system firmware.

Isolator Module:

Provide intelligent fault isolators modules. The Isolator Module shall be capable of isolating and removing a fault from a class A data circuit while allowing the remaining data loop to continue operating.

Monitor Module:

The Monitor Module shall be factory set to support one (1) supervised Class B Normally-Open Active Non-Latching Monitor circuit.

The input module shall support the following circuit types:

- Normally-Open Alarm Latching (Manual Stations, Heat Detectors, etc.)
- Normally-Open Alarm Delayed Latching (Waterflow Switches)
- Normally-Open Active Non-Latching (Monitor, Fans, Dampers, Doors, etc.)
- Normally-Open Active Latching (Supervisory, Tamper Switches)

Sequence of Operations**General - Audio**

Upon alarm activation of any area smoke detector, heat detector, manual pull station, sprinkler water flow, the following functions shall automatically occur:

The internal audible device shall sound at the control panel or command center.

Display the alarm event on the graphical workstation. The LCD Display shall indicate all applicable information associated with the alarm condition including: zone, device type, device location and time/date. All system activity/events shall be documented on the system printer. Any remote or local annunciator LCD/LED's associated with the alarm zone shall be illuminated.

The following audio messages and actions shall occur simultaneously:

An evacuation message shall be sounded on fire floors (zones) immediately on the floor in fire condition. It is the intent of this message to advise occupants hearing this message that they are near danger and should leave the building via the stairs (nearest exit) immediately.

Activate visual strobes on the fire floors (zones) immediately. The visual strobe shall continue to flash until the system has been reset. The visual strobe shall not stop operating when the "Alarm Silence" is pressed. An alert message shall be sounded on the remainder of building. It is the intent of this message to advise occupants to prepare for evacuation if necessary. An instructional message shall be sounded in the stairwells instructing occupants to move carefully and quickly down the stairs to exit the building and to exit to a safe floor if you encounter smoke in the stairwell.

Transmit signal to the building automation system.

Transmit signal to the central station with point identification.

Activate automatic smoke control sequences.

All automatic events programmed to the alarm point shall be executed and the associated outputs activated.

All stairwell/exit doors shall unlock throughout the building.

All self-closing fire/smoke doors held open shall be released.

5. *ASPIRATION DETECTION SYSTEM*

System Description

Design Requirements

1. Shall consist of a highly sensitive LASER-based smoke detector, aspirator, and filter.
2. It shall have a display featuring LEDs and a Reset/Isolate button. The system shall be configured by a Programmer that is either portable or PC based.

The system shall allow programming of:

- up to three smoke threshold alarm levels
 - time delays;
 - faults in airflow, detector, power and filter as well as an indication of the urgency of the fault;
 - Three relay outputs for remote indication of alarm and fault.
3. It shall consist of an air sampling pipe network to transport air to the detection system, supported by calculations from a computer-based design modeling tool.
 4. Optional equipment may include intelligent remote displays and/or a high level interface with the building fire alarm system, or a dedicated VESDA System Management.
 5. Performance Requirements
 - Shall be tested and approved to cover up to 500 sq. m.
 - Shall be approved to provide very early smoke detection and provide up to three output levels corresponding to Alert (optional), Pre-Alarm and Fire. These levels shall be programmable and able to be set at sensitivities ranging from 0.005 – 20% obs/m.
 - Shall report any fault on the unit using the fault relay or via VSM.
 - Shall be self-monitoring for filter contamination.
 - Shall incorporate a flow sensor in the pipe inlet port and provide staged airflow faults.

Detector Assembly

1. The Detector, Filter, Aspirator and Relay Outputs shall be housed in an enclosure and shall be arranged in such a way that air is drawn from the fire risk and a sample passed through the Dual Stage Filter and Detector by the Aspirator.
2. The Detector shall be LASER-based type and shall have an obscuration sensitivity range of 0.005 – 20% obs/m.
3. The Detector shall have up to three independent field programmable smoke alarm thresholds across its sensitivity range with adjustable time delays for each threshold between 0-60 seconds.
4. The Detector shall also incorporate the facility to transmit a fault either via VESDAnet or relay.

5. The detector shall have a single pipe inlet which must contain a flow sensor. Both Minor and Urgent flow faults for both high and low shall be reported.
6. The filter must be a two-stage disposable filter cartridge. The first stage shall be capable of filtering particles in excess of 20 microns from the air sample. The second stage shall be ultra-fine, removing more than 99% of contaminant particles of 0.3microns or larger, to provide a clean air barrier around the detector's optics to prevent contamination and increase service life.
7. The aspirator shall be a purpose-designed rotary vane air pump. It shall be capable of supporting a single pipe run of 50m, or two or three pipe runs, with a transport time of less than 60 seconds or as appropriate codes dictate.
8. The Assembly must contain relays for alarm and fault conditions. The relays shall be software programmable (latching or non-latching). The relays must be rated at 2 AMP at 30 VDC. Remote relays shall be offered as an option and either configured to replicate those on the detector or programmed differently.
9. The assembly shall have built-in event and smoke logging. It shall store smoke levels, alarm conditions, operator actions and faults. The date and time of each even shall be recorded. Each detector (zone) shall be capable of storing up to 12,000 events.

Displays

1. The detector will be provided with LED indicators only.
2. Each Detector shall provide the following features at a minimum:
 - Independent high intensity alarm indicators for Pre-Alarm and Fire (Alert indicated by the Pre-Alarm LED flashing) corresponding to the alarm thresholds of the detector.
 - Fault indicator.
 - OK indicator.
 - Isolate indicator.

A single button supporting the following features:

- a) Reset – (a single push of the button) Unlatches all latched alarm conditions on the assigned VLC zone.
- b) Isolate – (push and hold) Isolates the individual VLC zone (inhibits Alarm and Fault relays and initiates the Fault relay).
 - A remotely mounted Display may be optionally equipped with 7 configurable relays for signaling alarm and fault conditions.
 - The remote Display shall be able to identify Faults originating in the particular VLC zone (Zone Fault), those produced by the overall smoke detection system or from those resulting from network wiring errors (Network Fault). LED indicators shall be provided for each fault category.

Programmers

1. When required, a Programmer module may be in a remote mounting box, a 19 inch remote Rack, or in a portable hand-held unit (VN version).
 - Alternatively, programming may be performed using a Windows® application running on a PC; connected through a PC-Link HLI for VN.
 - Connected across RS232 with VESDA link for RO.
2. Each Programmer shall support the following features at a minimum:
 - Programming of any device on the VESDAnet system.
 - Viewing of the status of any device in the system.
 - Adjustment of the alarm thresholds of a nominated detector.
 - Initiation of Auto Learn™, to automatically configure the detector's alarm threshold settings to suit the current environment.
 - Multi-level password control.
 - Programmable latching or non-latching relay operation.
 - Programmable high and low flow settings for airflow supervision.
 - Programmable maintenance intervals.
 - Facilities for referencing with time dilution compensation. (VN only)
 - Testing of relays assigned to a specific zone to aid commissioning.

Device Networking Requirements

1. The devices in the smoke detection system shall be capable of communicating with each other via twisted pair RS485 cable. The network shall be able to support up to 250 devices (detectors, displays and programmers), of which at least 100 detectors can be supported.
2. The unit shall be capable of being configured in a fault tolerant loop for both short circuit and open circuit.
3. PC based configuration tools shall be available to configure and manage the network of detectors.

Digital Communication Port:

Should comply to EIA RS485 Protocol.

Application

1. Detection Alarm Levels

The laser based aspirating detection system shall have up to three (3) independently programmable alarm thresholds. The three alarm levels may be used as follows:

- Alarm Level 1 (Alert): Activate a visual and audible alarm in the fire risk area.

- Alarm Level 2 (Pre-Alarm): Activate the electrical/electronic equipment shutdown relay and activate visual and audible alarms in the Security Office or other appropriate location.
- Alarm Level 3 (Fire): Activate an alarm condition in the Fire Alarm Control Panel to call the Fire Brigade and activate all warning systems.

NOTE: The alarm level functions as listed are possible scenarios. Consideration should be given to the best utilization of these facilities for each application and the requirements of local authorities.

2. Initial Detection Alarm Settings

Initial settings for the alarm levels shall be determined by the requirements of the fire zone.

Default settings of the unit shall be:

- Alarm Level 1 (Alert) not configured (0.08% Obs/m if configured)
- Alarm Level 2 (Pre-Alarm) 0.14% Obs/m
- Alarm Level 3 (Fire) 0.2% Obs/m

3. Alarm Delay Thresholds

Alarm delay threshold shall be programmable for the following:

- Alarm Level 1 (Alert)
- Alarm Level 2 (Pre-Alarm)
- Alarm Level 3 (Fire)

4. Fault Alarms

The Detector Fault relay shall be connected to the appropriate alarm zone on the Fire Alarm Control Panel in such a way that a Detector Fault would register a fault condition on the FACP.

The fault relay shall also be connected to the appropriate control system.

(Check local Codes, Standards or Regulations to determine whether compliance with this set-up is required).

5. Power Supply and Batteries

The system shall be powered from a regulated supply of nominally 24V DC. The battery charger and battery shall comply with the relevant Codes, Standards or Regulations. Typically 24 hours standby battery backup is required followed by 30 minutes in an alarm condition.

Local Power Supply Standards that may apply:

ASNZ 1603 Part 4 –1987

UL 1481 listed (provided the power supply and standby batteries have been appropriately sized/rated to accommodate the system's power requirements). US Telecommunication Central Office Power Supply: The system shall operate on negative 48 VDC (provided continuously from the telephone central office power source) converted to 24VDC.

Sampling Pipe Design

Sampling Pipe

- The sampling pipe shall be smooth bore with an internal diameter between 15-25mm. Normally, pipe with an outside diameter of 25mm and internal diameter of 21mm should be used.
- The pipe material should be suitable for the environment in which it is installed, or should be the material as required by the specifying body.
- All joints in the sampling pipe must be air tight and made by using solvent cement, except at entry to the detector.
- The pipe shall be identified as Aspirating Smoke Detector Pipe (or similar wording) along its entire length at regular intervals not exceeding the manufacturer's recommendation or that of local codes and standards.
- All pipes should be supported at not less than 1.5m centers, or that of the local codes or standards.
- The far end of each trunk or branch pipe shall be fitted with an end cap and drilled with a hole appropriately sized to achieve the performance as specified and as calculated by the system design.

Sampling Holes

Sampling holes of 2mm, or otherwise appropriately sized holes (see Section 3.05), shall not be separated by more than the maximum distance allowable for conventional point detectors as specified in the local code or standard. Intervals may vary according to calculations. For AS1670 the maximum allowable distance is 10m. For BFPSA the maximum allowable distance is 10m For NFPA the maximum allowable distance is 30 ft.

Each sampling point shall be identified in accordance with Codes or Standards.

Consideration shall be given to the manufacturer's recommendations and standards in relation to the number of Sampling Points and the distance of the Sampling Points from the ceiling or roof structure and forced ventilation systems.

6. FIRE SUPPRESSION SYSTEM

General

The bidder shall supply, install, test and put in operation NOVEC 1230 (Fluro Ketone –FK- 5-1-12) based fire suppression system. The fire suppression system shall include and not be limited to gas release control panel, PESO approved seamless cylinders, discharge valve (with solenoid or pneumatic actuator) as the case may be, discharge pipe, check valve and all other accessories required to make a complete operation system meeting applicable requirements of NFPA 2001

standards and installed in compliance with all applicable requirements of the local codes and standards.

The system design should be based on the specifications contained herein, NFPA 2001 and in accordance with the requirements specified in the design manual of the agent. The bidder shall confirm compliance to the above along with their bid.

The system shall be properly filled and supplied by an approved OEM (Original Equipment Manufacturer)

Generally the key components* of the system shall be FM/UL listed. The NOVEC 1230 gas shall:

Comply with NFPA 2001 standard

- (i) Have the approval from US EPA (Environmental Protection Agency) for use as a total flooding fire extinguishing for the protection of occupied space:
- (ii) Be given Underwriters' Laboratories Inc. (UL, USA) component listing for the NOVEC 1230 gaseous agent.
- (iii) Must have zero ozone depletion potential (ODP)
- (iv) Have a minimal life span in atmosphere, with atmospheric life time of less than 5 days
- (v) be efficient, effective and does not require excessive space and high pressure for storage;
- (vi) commercially available

*Key components are valves and its accessories, actuators, flexible discharge and connection hoses, check valves, pressure switch, and nozzles

The gas release panel to be available in redundant and be capable for integration to FAS

Design Condition

The NOVEC 1230 agent is stored in seamless steel cylinders and dry nitrogen is added to provide additional energy to give the required rapid discharge. At the normal operating pressure of 25 bar at 21o C, the agent is a liquid in the container.

- The designer shall consider simultaneous total flooding of all voids within the protected volume. The system shall be designed in accordance with the OEM's Design Manual.
- In order to extinguish a fire using clean agent, the concentration of agent delivered to each void shall be above the minimum design concentration. The following shall be considered while designing the system.
- The minimum design concentration shall be 4.7% (NFPA Class C).

- If the protected volume has a floor and / or ceiling void the spaces shall be included in the protected volume, employing a minimum design concentration not below that of the main room compartment.
- The discharge nozzles shall be located within the protected volume in compliance to limitations and with regard to spacing, floor and ceiling coverage, etc. The nozzles shall be positioned such that they would cover the entire area up to the extreme corners of the area under protection and the design concentration will be established in all parts of the protected volumes.
- The final numbers of discharge nozzles shall be according to the OEM's product manual.
- The average pressure at each nozzle shall not be less than 6.034 Bar.
- The gas flow calculations shall be carried out on special software given by the OEM. The software should support usage of seamless cylinders which have a different design compared to the standard containers used worldwide. The system acceptance report shall show the resulting concentration in each independent void to be above 4.7% and the average pressure at each nozzle to be not less than 6.034 Bar
- The agent discharge time shall not exceed 10 seconds and not less than 5 seconds.
- - The design concentration shall follow at minimum NFPA 2001 for under floor, room and ceiling space. Unless otherwise approved, room temperature for air-conditioned space shall be taken around 20°C. For non-air conditioned space, the temperature shall be taken around ambient temperature. The system shall be designed with minimum design concentration of 4.7 % as applicable to Class C fire.

The system engineering company should carry out the piping Isometric design and validate the same with a hydraulic flow calculation generated by using the agent's design software.

Appropriate fill density to be arrived at based on the same.

The system shall be so designed that a fire condition in any one protected area shall actuate automatically the total flooding of clean agent in that area independently. The entire system shall incorporate inter-alia detection, audible and visual alarms, actuation and extinguishing.

SYSTEM DESIGN

Cylinders

Each cylinder shall be seamless steel type manufactured from billets and tested in accordance with IS 7285 / BS 5045 standard and approved by PESO.

The cylinder/valve assembly shall have suitable metallic protection for the valve enabling transportation of the filled cylinders safely.

The cylinders shall be super-pressurized with dry Nitrogen to 25 bar. The cylinder shall be capable of withstanding any temperature between -30° C and 70° C.

All cylinders shall be distinctly and permanently marked with the quantity of agent contained, the empty cylinder weight, the pressurization pressure and the zones they are protecting.

Cylinder Valve

The Valve assembly shall be mounted directly on the cylinder and should NOT have any adaptor provision between the cylinder and Valve as per requirements of PESO. Cylinders with Adaptor between Valve assembly shall be rejected as it is a violation of the PESO norms.

Each cylinder valve shall have a provision for fixing a supervisory pressure switch and a safety burst disc to protect the cylinder from over pressure. The cylinder valve shall have a disabling plug to prevent accidental discharge of the valve during transportation and installation.

Each valve is to be fitted with a pressure gauge for monitoring loss of pressure.

The master cylinder valve is to be released electrically which is performed by means of a solenoid valve arrangement. Pilot cylinder actuation and pyrotechnic devices shall not be used.

Cylinder valve Actuators

In a single cylinder system the cylinder shall have a solenoid operated actuator and a manual actuator incorporating a strike knob mounted on top of the solenoid operated actuator. Multi cylinder systems shall have the same fitted on to the master cylinder and pressure operated actuators fitted on each slave cylinder. All actuators shall be original

OEM make and locally manufactured actuators shall not be used.

Hoses

Each cylinder valve shall be provided with a plug in type flexible rubber discharge hose of minimum 40mm size with a test pressure of 52 Bar. Each hose shall be permanently marked with the test pressure and OEM's part number. Multi cylinder systems shall have an interconnect hose for each cylinder. All hoses shall be original OEM make and locally manufactured hoses shall not be used.

Manifold with Check valve

The manifold shall be fabricated from ASTM A106 Schedule 80 seamless pipe and shall have integral check valves provided for each cylinder. The Manifold shall preferably be supplied by the original equipment manufacturer instead of fabricating the same at site.

RE-FILLING AND MAINTENANCE

In case of any leakage or accidental discharge of the agent, it should be possible to re-fill the cylinders from a valid PESO approved OEM filling station in India itself. The contractor should indicate the source of re-filling and the time that will be taken for re-filling and replacement.

PIPING AND FITTINGS

All piping shall be ASTM A-106, Grade-B, Schedule 40 seamless pipes and all fitting shall be of ASTM A-105.

The NOVEC is required for the panel rooms, DC, UPS, networking & staging rooms

7. RODENT REPELLANT SYSTEM

1.0 GENERAL OBJECTIVE

The objective is to protect the entire premises viz., all the voids against rodents. The purpose is to keep the rodents away from the floor by generating very high frequency sound waves (above 20 KHz) which are not audible to human ear but irritates rodents. The objective is to protect all the cables below floor, above ceiling & room void from damage caused by rodents

2.0 SCOPE

The system proposed is to protect all the equipments, areas with relevant type of high frequency sound producing device called satellites or transducers. Once powered up these transducers produce very high frequency variable sound waves (above 20 KHz) continuously which irritate the rodents and are forced to evacuate the place. The system shall cover minimum of 2500 sq.ft. area per controller & shall be able to connect minimum 20 transducers per controller. The transducers shall cover minimum 250 sq.ft. of area. The devices can be tested periodically by means of a test switch provided on the Main console.

3.0 APPLICABLE STANDARD

The OEM shall have an IDEMI and CFTRI certification for its products.

4.0 SYSTEM COMPONENTS

4.1 SATELLITES:

The satellites or Transducers shall be circular ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 KHz. These satellites shall cover an area not less than 400 Sq.ft for Room void application, for ceiling Voids & floor void applications. No looping is permitted while connecting the satellites to the main controller. Every satellite connected to the controller shall have a dedicated connection with the controller.

4.2 CONTROLLER

The controller shall support 12 Transducers and shall come with a pair of stands and brackets. The controller is installed in the control / BMS room and the transducers in the problematic areas i.e. above and below false ceiling and below false flooring. Controller Features:

- 2500 Sq. Feet of Area Coverage per system/ Controller.
- Shall drive up to 12 Transducers. With minimum @ 250sft coverage each.
- LCD display with on-board controls for changing parameters

8. WATER LEAK DETECTION SYSTEM

General

- The Tenderer shall be responsible to supply, deliver, install, test, commission and maintain of a proven technology and industry standard solution for a water detection system in the Data Center.
- The complete system shall include electronic alarm panel, sensing cable, 4x20 alphanumeric display, and auxiliary equipment, as indicated on the design drawings.

The system shall simultaneously detect the presence of water at any point along the cable's length and switch the module's leak alarm relays.

- The sensing cable shall be of such construction by using Non-conductive polymers in the leak detection cable's construction. The Sensing Cable shall be an abrasion resistant polymer cores to increase the strength of the cable. Pressure on the sensing cable shall not create a false alarm.
- The Digital Sensor Cable shall be provided with pre-connectorised sensing cable components.

Alarm Panel

- The alarm panel shall be capable of monitoring up to (30 meters) of sensing cable.
- The alarm Panel shall have LEDs indicating "power" (green), "alarm" (red), and "continuity" (yellow). The system shall sound an audible alarm upon sensing a leak. The unit can then continue to monitor and will re-alarm if there are any major changes. Once the alarm condition has been cleared, the panel is reset with a single keystroke. The Panel shall have 4x20 alphanumeric display with adjustable contrast.
- Basic Features of the alarm panel
 - a) In addition to detecting leaks, the system shall warn of fault conditions and indicates when service is required.
 - b) An event history log allows leaks (and other events) to be tracked.
 - c) Both the events history log and any user settings are held in non-volatile memory. Event log shall store 50 date and time stamped alarms.
- The alarm module will be powered by 230 VAC. The panel shall have a pair of contacts open on an alarm, and a pair of contacts close on an alarm. These contacts shall be used to actuate other alarms and shall be capable of switching 10 amps at 250 VAC.

- In additions, the panel shall be provided with RS-485 series port for connection to building management system & shall have slave Modbus RTU protocol
- The module enclosure shall be NEMA 1, constructed of 18- gauge steel with Siemens gray colour Powder Coated. The enclosure shall be capable of either semi flush or surface mounting.
- Sensing Cable
- The water sensing cable shall detect the presence of water and other conductive fluids. The sensing technology shall be very low current AC signal and not DC signal to avoid corrosion when subject to wetness for long period.

Accessories

A Complete system accessories (leader cable, end terminations, etc.) shall be provided by the system manufacturer.

20. Project Management

The bidder is required to include a high level project management plan in the proposal and will be required to provide a detailed and comprehensive project management plan that will become the source for determining implementation tasks and completion time of each task.

Data Center Bill of Material

Summary

SR. NO	ITEM
1	Civil & Interior
	Scope : Supply & Installation of False flooring, False ceiling, brick work, painting, fire rated door, Fire rated partition, Furniture etc for the Data center only overall sqft area is 1142
2	Electrical
	Scope : Supply & installation electrical system for the Distribution board including DC panel, UPS panel, Cables & cableTray & its installation, Point wiring & conducting work, raw power sockets & its accessories, Earthing related cabling. For overall Power of 107kva
3	UPS System
	Scope: Supply, installation, testing & commissioning of UPS 2 X 60 kVA Online UPS system with IGBT technology, with 30 minutes battery back up & 2x 6kva UPS for IBMS & Emergency Load
4	PAC
	Scope: Supply, Installation and Commissioning of 3x8TR Precision Airconditioning system with complete Indoor & Outdoor unit with refrigerant GAS
5	CAC
	Scope: Supply, Installation and Commissioning of Comfort Airconditioning system with complete Indoor & Outdoor unit with refrigerant GAS
6	RACK
	Scope: Supply, Installation and Commissioning of Server & Network Rack
7	Integrated Building Management System
	Supply, installation testing & commissining of the IBMS systems at the National Data center
7.1	FIRE ALARM SYSTEM
7.2	FIRE SUPPRESSION SYSTEM
7.3	ACCESS CONTROL SYSTEM
7.40	CCTV
7.50	WATER LEAK DETECTION SYSTEM
7.60	PUBLIC ADDRESS SYSTEM
7.70	RODENT REPELLENT SYSTEM
7.80	ASPIRATAION SYSTEM
7.90	BUILDING MANAGEMENT SYSTEM
8	Data Safe
	Supply of 300ltr Data safe one Fire rated
9	Data center design & project Management

SAP Implementation

1.1 General

- 1.1.1 Special Conditions of Contract shall be read in Conjunction with the General conditions of Contract, specification of work, Drawings and any other documents forming part of this Contract wherever the context so requires.
- 1.1.2 Notwithstanding the sub-division of the documents into these separate sections and volumes, every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.
- 1.1.3 Where any portion of the General Condition of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears, the provisions of the special Conditions of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.
- 1.1.4 Wherever it is mentioned in the specifications that the Implementation Partner shall perform certain work or provide certain facilities, it is understood that the Implementation Partner shall do so at his cost and the value of contract shall be deemed to have included cost of such performance and provisions, so mentioned.
- 1.1.5 The materials, design, and workmanship shall satisfy the relevant best practices, the Job Specifications contained herein and Codes referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.
- 1.1.6 It will be the Implementation Partner's responsibility to bring to the notice of Engineer-in-Charge any irreconcilable conflict in the contract documents before starting the work(s) or making the supply with reference which the conflict exists.
- 1.1.7 In the absence of any Specifications covering any material, design of work(s), the same shall be performed/ supplies/ executed in accordance with Standard Engineering Practice and as per the instructions/ directions of the Engineer-in-Charge, which will be binding on the Implementation Partner.
- 1.1.8 All the work specifically mentioned in the tender document is under the scope of the Implementation Partner. All other works not specifically mentioned but required for successfully execution of the work shall also be perform by the Implementation Partner and payment shall be paid as per the terms and conditions mentioned elsewhere in this document.

1.2 Instruction for Quotation

The Bidder / Implementation Partner (IP) shall quote as per the complete scope of work explained in the bid document. Bidder / IP is advised to read all the instructions given in the bid documents carefully and ensure that the response complies fully therewith. Failure to provide the information and documents required by this RFQ, shall render the bid liable to be rejected.

1.3 Implementation Project Location

The Project team will be located at BCPL's Office at Administrative Building, BCPL Project Site, Lepetkata Dibrugarh-786006, Assam Tel: 0373- 2914604, Fax: 011-66173653.

The disaster recovery (DR) site shall be maintained at Gail, Infohub, Noida whereas Data Centre (DC) will be maintained at Administrative Building, BCPL, Lepetkata, Dibrugarh.

1.4 Completion Period

The implementation period is 52 weeks from the date of kick off meeting and Post Go-Live stabilization support period of 26 weeks from the date of Go-live. The kick off meeting shall necessarily be held within 15 days of issue of Fax of Intent (FOI)/ Letter of Intent (LOI) / Letter of Acceptance (LOA). The Key deliverables mentioned under Annexure-01 shall also be considered for project completion and application of PRS.

1.5 Arrangement of Hardware/Software/Tools for Development and Testing of SAP ERP Solution:

To reduce overall project timeline and to expedite SAP implementation activity, it shall be the responsibility of the Bidder/IP to arrange Hardware/Software/Tools along with necessary licenses, wherever applicable (except SAP Licenses), to provide the necessary platform for development, customization, modification, testing of the SAP ERP Solution until Data Centre build and installation of hardware/software in the same as specified in this tender.

Bidder/IP has to ensure that the platform provided for the aforesaid purpose should be similar to the hardware/software/tools which are intended to be supplied & deployed in Data Centre to avoid any Operating System or Database Migration. However Bidder/IP will be fully responsible to migrate the entire ERP Solution to the new and final platform / system after the preparation of Data Centre.

1.6 Bidder's/IP's Responsibility for Quotation

It is the Bidder's/IP's responsibility to ensure that the information provided is adequate and clearly understood.

The Bidder's/IP's quotation is the responsibility of the Bidder/IP only and no relief or consideration can be given for errors, omissions or loss thereof for any reason whatsoever.

It is the responsibility of Bidder / IP to collect adequate information before giving the offer. BCPL, on request can allow visits to its premises for Bidder / IP to understand BCPL specific business processes.

1.7 Owners right on information

BCPL shall own and have right on project plan, written working papers/programs/scripts/recorded files on media or any other documentation which have been developed specifically for BCPL to facilitate project.

1.8 Signoff at each Project Milestone

BCPL and Bidder/IP Project Managers shall jointly sign the closure document at the end of each project milestone, as mentioned below, as per agreed scope of work.

1. Project Preparation
2. Business Blueprint
3. Realization
4. Final Preparation & Go-Live
5. Post Go-Live Stabilization Support

The phase shall only be closed once all the activities of that phase have been completed in all respects. However, activities for subsequent milestones may be started before closure of previous milestones.

1.9 Profile of Consulting Resources

It will be the responsibility of Bidder/IP to deploy capable and experienced resources for the proposed project. The following table briefly indicates the minimum resource profile required for various roles in the project and the Bidder/IP shall submit Curriculum Vitae of all the resources it intend to bring this engagement to indicate their resource profile. The Curriculum Vitae shall include details in following format.

S. No.	Implementation Partner Project Team	Minimum Essential Qualification & Experience
1	Project Manager	Professional qualification with at least 12 years of total experience.
		Should have at least 4 years of project management experience.
		Should be involved in managing at least 3 successful full life cycle implementation(s) of ERP in large organizations.
		PMP Certification.
		Should have experience of managing large, cross-functional teams.
		Involved in at least one successful full cycle implementation of SAP ERP project in government / public sector.
2	Lead Functional Consultant	Professional qualification with at least 10 years total experience including at least 5 years of SAP ERP implementation experience.
		At least 3 successful Full life cycle implementation(s) of ERP including one in government / public sector.
		Demonstrated leadership and managerial skills, as well as the ability to establish and maintain relationships with client leadership.
		The functional manager should be an ERP certified consultant.
		SAP certification in relevant module.
3	Lead Technical Consultant	Professional qualification with at least 10 years total experience including 5 years of SAP ERP implementation experience.
		Involved in installation of hardware and operating system configuration, system maintenance, installation of ERP system for at least 3 successful ERP implementations
		Involved in fit-gap analysis jointly with functional consultant –identify gaps design the solution to address the gaps.
		Performed data migration activities (data upload script preparation, data upload etc.).
		SAP certification in relevant module.
4	Change Management Manager	Professional qualification with at least 15 years of total experience including 7 years of ERP change management experience
		Experience in Public sector is preferable.
5	Functional Consultants	Professional qualification: Engineers/ MBA/Inter CA/ Inter ICWA.
		Overall experience of at least 5 years with minimum 3 years of domain experience
		ERP Experience: Minimum 3 years with at least two ERP end-to-end project implementation experience.

S. No.	Implementation Partner Project Team	Minimum Essential Qualification & Experience
		For HR, Finance & Materials module experience in Public sector is preferable.
6	Technical Consultants	Professional qualification: Engineers/ MCA.
		Overall experience of at least 5 years with minimum 3 years of domain experience
		ERP Experience: Minimum 3 years with at least two ERP end-to-end project implementation experience.
		Involved in providing the technical support post go-live.

It is the sole responsibility of Bidder/IP to ensure that quality resources are deployed to complete the project to the satisfaction of BCPL as per the schedule timelines from the resources of Implementation Partner. In the event of unsatisfactory performance of the resource deployed, BCPL shall have the right to ask Implementation Partner to change the resource at the earliest within a week's time. The Implementation Partner shall submit Curriculum vitae of resources, it intends to deploy in the project.

Name				
Designation				
Proposed Role				
Years employed with Bidder				
SAP Certification Details				
Qualifications (As Required above)				
Total Experience Post Qualification.	<u>Total no. of Implementation</u> n	<u>Duration(Months)</u> 1) 2) 3)	<u>In the capacity of</u> 1) 2) 3)	<u>Client Name</u>
SAP ERP Implementation Experience	<u>Total no. of Implementation</u> n	<u>Duration(Months)</u> 1) 2) 2)	<u>In the capacity of</u> 1) 2) 3)	<u>Client Name</u>
Government / PSU experience				
Other Relevant Experience				

1.10 Non-Disclosure of Proprietary Information

Implementation Partner and its associated partners, if any, with this project shall protect the confidentiality of all BCPL proprietary information (verbal, written documents or recorded data in

computers/slash recordable medias), which comes to the knowledge of Implementation Partner during the project. Implementation Partner is to sign a non-disclosure agreement at the time of award of contract.

Confidential Information:

- I. Each party (Disclosing party) proposes to disclose certain of its confidential and proprietary information (The confidential information) to other party (Recipient). Confidential information shall include all data, material, products, technology, computer programs, specifications, manuals, business plans, software, marketing plans, business plans, financial information and other information disclosed or submitted , orally , in writing, or by any other media, to Recipient by Disclosing party.
- II. Recipient agrees that the confidentiality is to be considered confidential and proprietary to disclosing party and recipient shall hold the same in confidence of such confidential information. The Recipient shall not use the confidential information other than for the purposes of its business with disclosing party, and shall disclose it only to its officers, directors or employees with a specific need to know. Recipient will not disclose , publish or otherwise reveal any other confidential information received from disclosing party to any other party whatsoever except with the specific prior written authorization of disclosing party.
- III. Confidential information furnished in tangible form shall not be duplicated by recipient except for the purposes of this agreement, Upon the request of disclosing party, Recipient shall return all the confidential information received in written or tangible form , including copies or reproductions or other media containing such confidential information. At the recipient's option, any documents or other media developed by the recipient containing confidential information may be destroyed by the recipient. Recipient shall provide a written certificate to owner regarding destruction within (10) days thereafter.

Non Solicitation: Implementation Partner and BCPL shall agree that neither shall directly nor indirectly solicit for employment of any staff of the other party who has been directly and substantively involved in performance under this project, unless mutually agreed upon by BCPL and Implementation Partner in writing.

The implementation partner shall sign the nondisclosure agreement as given in the Annexure-D.

1.11Detailing of Scope of Work

The scope of work for implementation has been mentioned in the clause 4.0, 5.0 and 6.0 of section “scope of work” of tender document. The scope of Implementation Partner includes, but is not limited to, the processes / functionalities mentioned in the tender document; the further detailing of the scope listed in the document shall be finalized during Business Blue Print stage based on inputs from BCPL's business process owners / core team. Here it may be clarified that the processes mentioned in the present scope are indicative only and the complete list of processes against each item in the scope shall be identified during blue print stage after discussions / input with the BCPL process owners, which may also include completely new sub-process related to mentioned functionality / process in the scope of work. After award of job, the Implementation Partner shall have detailed discussions / inputs with the BCPL process owners during blue print stage and a complete list of processes shall be identified for its mapping in the system.

The requirements mentioned in this scope are to be achieved through standard SAP functionalities or enhancements using exits / badi's / enhancement points etc.to the extent possible. Modifications in

SAP standard programs using access key shall be resorted to only in cases where the required functionality cannot be achieved using SAP standard functionality & user exits / badi's / enhancement points. Further the implementation partner shall submit the proper reason and justifications for any access keys required for achieving the scope of work while submitting the request for access key. All the development shall follow the guidelines as mentioned clause 6.0 of SOW.

1.11.1 Risk Management

Risks will be defined at the Project level. It will be the responsibility of the Implementation Partner Project Management Team to address the project risks from milestone to milestone and make sure the responsibilities are managed. The Project Risk Log & Mitigation Plan will be prepared based on the inputs from BCPL Team members.

BCPL may engage the OEM for review and risk assessment of solution being implemented by Partner. The Review by the product vendor is expected to provide an independent and objective view of the implementation project, identify any risks to the project goals and recommend appropriate corrective action. The review shall take place for the following milestones of the project implementation depending on the need, deliverables and project timelines:

- Business Blueprint
- Realization
- Final preparation for Go Live

The partner shall incorporate / implement the recommendations of OEM to the satisfaction of BCPL.

1.12Details to be furnished by The Bidder / IP

The Bidder shall submit the details as per following sections as part of the Bid Submission.

1.12.1 Bidder's Organization

- A description of Bidder's Corporate Organization and Operations. An Organization chart showing details of the Bidder's Head Office Organization in India, levels of responsibility and lines of communication, indicating names of key personnel at management level.
- Principle and subsidiary line of business and years of operation in India
- Employee strength – Global and local
- Number of offices in India (specify locations)
- Information regarding Bidder's on-going and "in pipeline" projects in the area of SAP implementation in India. The Bidder shall mention specifically if they have entered into any contract with their client(s), which prohibits them from quoting for ECC 6.0 implementation in BCPL and/or any other Oil / Gas Company in India. The Bidder shall also specify if any of their affiliates / subsidiaries / partners / sub-contractors have entered into such conditional contracts / agreements as mentioned as above.
- During the process of Bidding for BCPL's project, if there is any change in the legal status of the Bidder's firm, the Bidder shall produce necessary documents related to the change. If by virtue of such change, the Bidder faces any restrictive conditions (as mentioned in the preceding para), the Bidder shall submit 'No Objection / Clearance'

certificate from the concerned party. BCPL may accept this, if found to be in order in terms of contractual and legal aspect.

1.12.2 Relevant Experience & References

The details of experience and references establishing the Bidders SAP Implementation capabilities are to be given as per the formats in Annexure IIa to IIr of SCC.

In case the Bidder quotes on the basis of out-of-India SAP implementation project experience, it would be necessary for the Bidder to associate the same Consultants and Lead consultants Resources who previously worked in the referred Project.

The Profile of such Resources (Consultants, Lead Consultants etc.) will also be required as per format mentioned in SCC.

1.12.3 Proposed implementation strategy, methodology and benefits

Describe the proposed implementation methodology highlighting the benefits. The implementation proposal shall clearly indicate:

- Stages of implementation
- Milestones and deliverables
- Proposed project organization
- Roles and responsibilities
- High-level project plan.

The implementation strategy shall also include a plan to enable in-house ECC 6.0 or latest skill development and maximize the usage of in-house skills.

1.12.4 Training and knowledge management

Provide details of the proposed mechanism for knowledge transfer to the project team members' knowledge management within the end-user community of BCPL.

1.12.5 Quality Review Plan

Provide details of the Quality Assurance program envisaged for the BCPL's ECC 6.0 or latest implementation.

BCPL requires that the all the deliverables forming part of whole implementation process including broadly the Project Strategy, Pilot Implementation, Business Analysis, Readiness Assessment and Go Live Review etc. will be subjected to stages-wise quality audit by Quality Review and Solution Assurance Agency (QRSAA) as per Solution Assurance. The parameters of the Quality Review and Solution Assurance by QRSAA are detailed at Annexure I of SCC.

Bidder/IP shall be wholly and solely responsible and liable for all the jobs carried out by them/ services provided by them. QRSAA being a party to the Solution Assurance and/or having signed off a particular milestone will not exonerate IP from his prime responsibilities to have done a correct job as per the requirement of the job/contract in the first instance. If so required, IP shall be required to revisit those milestones, which are already signed off and will be required to make suitable corrections at no extra cost and time implication to BCPL.

1.12.6 Infrastructure requirements

Bidder shall state in his response, the infrastructure requirements of hardware, software and network at the project site as well as the pilot locations. Bidder to clearly state the scope of supply of these infrastructures. Following Infrastructure facility shall be made available by BCPL for ERP Project:

1. LAN/ WAN connectivity,
2. I/O point Data channel, Bandwidth
3. Working space, Conference room
4. Projector, Scanner, Printers, Office-aids

BCPL shall not provide Notebook PC to IP consultants. Any other facilities/equipment/Hardware/Software required by IP for completing the Scope of Work, shall be in the Scope of IP.

1.12.7 Post Go-Live Stabilization Support strategy

The consultant shall take up all the issues including that of implementation scope given by BCPL during this period. Implementation partner shall facilitate BCPL in carrying out smooth first financial year closing and two nos. of financial quarter closing after go live. The implementation partner shall deploy / depute sufficient manpower for the same at site for closing all the issues.

1.13 Outline for Implementation

1.13.1 The technical bid should address the following points:

I. Methodology

- a. The technical proposal should contain a detailed description of how the bidder will implement the SAP ERP at BCPL. It should articulate in detail, as to how the bidder's methodology, technical teams, the management expertise and specific capabilities required for the project will be deployed to meet the requirements of BCPL as specified in this Annexure of the tender.
- b. The implementation methodology to bring out how the requirements of BCPL will be addressed comprehensively to get the best out of the SAP ERP.

II. The Services during Implementation

- a. Bill of services offered by the bidder during implementation
- b. The details of the services offered during the O&M period to meet the requirements of BCPL.
- c. Mechanisms / support for Data migration and post Go-Live Stabilization Support
- d. Format and structure of deliverables to be produced during the project by the project team.
- e. Training the users and the mechanisms to ensure that all the intended users can use the system effectively.

III. Change Control and Estimation

- a. As has been highlighted since this is a fixed price project with clearly defined scope of work, BCPL expects that the Implementation Partner carries out the entire project without any changes. However, if BCPL intends to change the scope of the project with additional processes other than the ones detailed in this Annexure of the tender, it would like to do so in a transparent manner. Keeping this in mind the bidder is required to provide details of the mechanisms for change control like
- b. Identification and validation of the nature of change
- c. Estimation of the effort required to carry out the change
- d. Identification of the expertise required to execute the change
- e. Escalation mechanism for change control
- f. It is highlighted again that any different interpretation of the process to be implemented is not considered as change
- g. Any deviations from the assumptions the bidder would have made while preparing the proposal also is not accepted as a change.
- h. Any need for activating any different modules of the SAP ERP over the ones proposed by the Implementation Partner, required to meet the functional requirements of BCPL listed in this Annexure, also is not considered as a change as long as they are required for implementing the processes detailed in this Annexure of the tender.

IV. The Project Team

- a. The Implementation Partner shall form a project team comprising the following key positions:-
 - Project Manager
 - Delivery Manager
 - Solution Architect
 - Lead Functional Consultant
 - Lead Technical Consultant
 - Change Management Manager
 - Infrastructure Manager
 - Functional and Technical Consultants
 - Other project roles such as process improvement, training, bespoke development etc.
- b. Project Manager: An adaptable and pragmatic ERP Project Manager, with a consistent track record of success in the public and private sectors; known for foresight, strategic planning abilities, initiative, commitment to projects and ability to deliver on time and within budget.
- c. Delivery Manager: The person should be involved in managing entire project life cycle including phase wise delivery, resource deployment, communication with key stakeholders, etc. The person should be involved in managing delivery from onsite and offsite locations and head steering committee and other project meetings. The person should be involved in managing cost and budget of the project.
- d. Solution Architect: An ERP Solution Architect, with a consistent track record of

success in private and public sector and should have hands-on experience in designing solutions and be comfortable working with diverse environments, across all levels of an organization.

- e. Lead Functional Consultant: An ERP Lead Functional Consultant, with a consistent track record of success in the public and private sectors and should lead from the front with a hands-on management style and be comfortable working with diverse cultures, across all levels of an organization.
- f. Lead Technical Consultant: The primary role of ERP Lead Technical Consultant shall meet the requirements as specified by the Lead Functional Consultants/ Functional Consultants. He shall ensure that the developmental activities are in conformity with the quality guidelines and customer specifications as mentioned in the requests.
- g. Infrastructure Manager: The primary role of Infrastructure manager shall be to analyse and provide the final ERP quality/production environment, operating system, database security and backup.
- h. Change Management Manager: The primary role of Change Management (CM) manager shall be to conduct the effective CM workshops/training to ensure that the inevitable changes that occur in BCPL due to changes in the Processes, Roles & Responsibilities are mitigated in an organized and positive manner.
- i. Functional Consultants: All Functional Consultants should be ERP business analysts with strong configuration skills, and should have the ability to work in a collaborative, team environment. In addition they should have excellent domain knowledge and be able to pull together and finalize the business requirements of the project. They should have the ability to translate requirements into processes and to put in place standard reporting. Balancing best practice with a pragmatic approach, they should be independent problem solvers capable of working within the constraints / environment of a Public sector organization.
- j. Technical Consultants. The primary role of Technical Consultant shall be to meet the requirements as specified by the Lead Functional Consultants/ Functional Consultants. He shall ensure that the developmental activities are in conformity with the quality guidelines and customer specifications as mentioned in the requests. He shall also ensure thorough testing and validation of the changes proposed and supports the functional team.
- k. Change Management Team. The primary role of change management (CM) team creates an awareness of ERP, its necessity, benefits, and impact.
- l. Infrastructure Team. The primary role of Infrastructure management team to ensure the successful installation of all hardware and smooth running of the same.
- m. Implementation Partner shall define individual roles and responsibilities and the level of involvement of a particular role in the project and its schedule / frequency. BCPL shall make available its implementation team which shall work in association with the above team for assisting and to ensure proper skill transfer and project execution. The Project Manager, Functional & Technical leads, Change Management Lead shall be included in the team.

V. The methodology being deployed by the bidder to implement the SAP ERP at BCPL needs to be elaborated to bring out the following factors clearly:

- a. The mechanisms to ensure that all the processes of BCPL described in this Annexure of the tender are implemented without any change in scope of work.
- b. If there is any requirement for additional work or changes in scope, the mechanism to assess the need for it and mechanisms to estimate the effort for such work.

VI. Project Plan and Resource loading

- a. BCPL expects that the bidder has planned the project in detail, adequately loading the project with requisite resources. The requirement of BCPL is that the project is completed on time to the satisfaction of the users of the SAP ERP at BCPL.
- b. Detailed Project charter including the detailed Project Plan, indicating all activities with resources required with their roles and responsibilities and time schedule will be required to be prepared at the start of the project and submitted to BCPL for approval.
- c. The bidder is requested to highlight how they plan to execute the project, the critical milestones, the deliverables at these milestones, the resource loading both at site and offsite etc.
- d. The bidder is requested to provide the project plan details along with the resource loading.
- e. The bidder is required to share details effort estimate along with total number (peak load) of consultants required for this project.
- f. The project charter/project plan shall be a comprehensive document to include the following:-
 - (i) Project Description.
 - (ii) Approach and Methodology.
 - (iii) Milestones.
 - (iv) Project Organization their Roles and Responsibilities.
 - (v) Project Risks and Mitigation Plans.
 - (vi) Dependencies.
 - (vii) Delivery schedule.

VII. Deployment of best practices

- a. BCPL would like to seek the experience of the bidder in implementing SAP ERP solution in similar environments like BCPL preferably Government organizations or Public Sector Undertakings. The experience and the practices adopted to exploit the best practices available with the SAP ERP Solutions are best reflected in the deliverables produced during similar implementation. The bidders are requested to provide sample deliverables from similar implementations (with or without the name of the customers) in the following functional areas.
 - Financial Management
 - HR/Payroll
 - Materials Management
 - Sales and Distribution

- Quality Management

b. How the bidder intends to address the needs for process redesign is required to be elaborated in the proposal.

VIII. Acceptance Mechanisms

a. BCPL would like to have transparent mechanisms for review and for acceptance of the deliverables, produced by the Implementation Partner during the project. The bidder is required to provide:

- The internal review mechanisms of the bidder and the nature of expertise deployed for this.
- The review and correction mechanisms for each of the deliverables.
- The acceptance criteria for each of the deliverables.

IX. Data Migration Services

a. BCPL will not deploy any resources for data migration; the Implementation Partner is expected to provide data migration services during the implementation.

b. Migrating the data from the other systems/manual operations to the ERP system will include identification of Data Migration requirements, collection and migration of user data, collection and migration of master data, closing or migration of open transactions, collection and migration of documentary information and migration of data from the legacy applications/systems.

c. The data migration services will include development of templates in consultation with BCPL for data conversion if required as well as converting the data from physical form to digital form wherever required.

d. The data migration will include migration of master data as well as data on open transactions.

e. The data migration will be done at BCPL

f. Data relevant to projects, finance, stores, human resources, purchasing, sales, laboratory etc. have to be migrated.

g. Additional requirements for data migration:

- Implementation Partner shall formulate the “Data Migration Strategy document” which will also include internal quality assurance mechanism. This will be reviewed and signed-off by BCPL prior to commencement of data migration.
- Implementation Partner shall incorporate all comments and suggestions of BCPL in the Data Migration Strategy and process documents before obtaining sign-off from BCPL.
- Implementation Partner shall perform mock data migration tests to validate the conversion programs.
- Implementation Partner shall ensure complete data cleaning and validation for all data migrated from the legacy systems to the new application.
- Implementation Partner shall validate the data before uploading the same to

the production environment.

- vi. Implementation Partner shall generate appropriate control reports before and after migration to ensure accuracy and completeness of the data.
- vii. Implementation Partner shall convey to BCPL in advance all the mandatory data fields required for functioning of the proposed solution and which are not available in the legacy systems and are required to be obtained by BCPL.
- viii. Implementation Partner shall develop data entry programs / applications that may be required for the purpose of data migration in order to capture data available with / obtained by BCPL in non – electronic format.
- ix. Implementation Partner shall conduct the acceptance testing and verify the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.
- x. BCPL may, at its will, verify the test results provided by Implementation Partner.

X. Testing

- (a) The Bidder/IP is required to prepare procedures detailing the step for conducting System Tests, which are accepted by BCPL. The System Integrator shall after development and customization/configuration of the ERP solution, conduct tests to demonstrate that the system meets all the requirements (functional and technical) specifications as brought out in this RFP and would be in accordance with the procedures detailed in approved To-Be process document.
- (b) On the basis of these tests, a report would be submitted by the System Integrator for review and approval by BCPL. The test results and response times should be demonstrated by the Implementation Partner during the testing phases (System, integration & Stress and Load testing) at each BCPL location in an environment/infrastructure as mutually agreed upon by BCPL and the Implementation Partner.
- (c) Integration testing shall be carried out by the Implementation Partner to ensure cross function modules are integrated and transaction data is flowing across the modules accurately. Implementation Partner is required to plan and execute integration and ensure satisfactory results are obtained.

XI. Project Structure and governance

- a. BCPL expects that the bidder has a robust project structure in place for effective interface with the senior management, the core project team for implementation of the SAP ERP and the likely users of the system at BCPL. The project structure should also cater to the following key requirements
 - Quality control and testing of the configured system
 - Mechanisms for escalation and resolution of issues
 - Mechanisms to monitor the project timelines
- b. The bidder is required to provide details of these things in the Technical Proposal.

- c. Project Governance Model: BCPL requires models for governance, management, escalation, and issue resolution mechanism, which need to be elaborated by the bidder. Proposal should also cover the mechanisms for ensuring the quality of deliverables, the list of individual experts or organizations units which will review the deliverables produced by the project team on daily and weekly basis. More over BCPL requires two mandatory committees as below:-
 - Executive Review Committee: The review committee will be chaired by Managing Director, BCPL and top executives from BCPL, Implementation Partner, hardware and software OEMs. This will be a quarterly meeting for the entire duration of project.
 - Steering Committee: The steering committee will be chaired by Project Sponsor, BCPL and would consist of Process Owners from BCPL, Implementation Partner and hardware & software OEMs. This will be a monthly meeting for the entire duration of project.
- d. Overview of the project plan, resource loading, the mechanisms for managing the timelines, the mechanism for change management, scope management, and configuration control.
- e. Mechanism to bring in new members to the team due to attrition or any other reason, instead of the ones suggested in the proposal, judging their competencies against the ones suggested in the proposal.
- f. The mechanism for assessing the scope, assessing the effort to address the changes in scope if any, assessing the expertise required to address these changes.
- g. The key mile stones for BCPL Management review, for corrective actions, for giving go ahead for further actions and for payments.

XII. Training and project artifacts

- a. The bidders are required to provide details of how the training will be conducted to ensure that all the users will be able to use the system effectively.
- b. BCPL intends to ensure that the project artifacts and documents are well organized for review, modification and for future reference. It is expected that Implementation Partner will use the native document/project management tool available with the SAP ERP solution for this purpose. The bidders are required to provide details of how will they use these solutions to meet the requirements of BCPL
- c. Training for all stakeholders of BCPL including Core Team, End users etc.
- d. Documentation, training, simulation and help tool should:
 1. Generate documentation by recording transactions, create printed or on-line materials in different formats for end-user training, support, configuration, documentation or testing.
 2. Maintain terms and definitions in a database for process documentation. Definitions should automatically synchronize with all documentation so that user documentation is maintained quickly and accurately.
 3. Create context-sensitive links for required documentation directly into the ERP Help System. The users should be able to find the help he is looking for directly from within ERP transactions.

4. Refer Section V Para 13 for details of training

XIII. Support and Maintenance

- a. BCPL requires the bidder to provide support and maintenance services for a period of 26 weeks from the date of Go-Live. It is expected that the vendor will provide continuous support services after the go-live.
- b. The bidder is required to furnish the following details with regard to the services in the Technical Proposal, which needs to be in line with this tender requirements:
 - The list of services to be delivered during the maintenance period
 - The mechanisms to source and monitor the services
 - The escalation mechanism
 - The team structure to deliver the services, etc.
- c. As per BCPL security policies the system will not have any connectivity to the Internet. Bidder is required to propose support mechanism/methodology for SAP applications in the above scenario.

1.13.2 Technical Proposal Instructions and Conditions

- I. The bidder is expected to respond using the specified formats for the response, wherever applicable. Failure to use the specified formats may result in disqualification of the proposal.
- II. The Technical Proposals must be direct, concise, and complete. Any information not directly relevant to this tender, should not be included in the proposal. BCPL will evaluate bidder's proposal based upon its clarity and the directness of its response to the requirements of the project as outlined in this tender.
- III. In submitting additional information, it must be marked as Supplement Information to the required response. If the bidder wishes to propose additional solution components (or enhanced levels of services) beyond the scope of this tender, the proposal must include a description of such services as a separate attachment to the proposal.
- IV. Wherever the customer name is asked for experience or deliverables, the bidder is required to provide the name. Not providing the name of the customer will be treated as incomplete information and will affect the evaluation process.
- V. The bidder shall number all the pages of the Technical proposal including the annexure and other attachments
- VI. The technical proposal must not contain any price information. Such proposals shall be rejected during the technical evaluation stage.

1.13.3 Implementation Approach

- I. BCPL is a large organization with complex business processes. Varying systemization levels and diverse functional requirements compound this. The bidder/IP is required to deploy a comprehensive Methodology for implementation of the SAP ERP Solution at BCPL to ensure that the organization is able to achieve the objectives of the project and able to harness the capabilities of the SAP ERP solution completely. The implementation methodology should aim for streamlining implementations and deliver faster results to all the stake holders of the project.
- II. The methodology shall be well-defined and structured in approach. It should adhere to the globally accepted best practices of SAP ERP implementation approach and should cover the following broad phases or work elements

- Project Preparation Phase
- Business Blueprint Phase
- Realization Phase
- Final Preparation Phase
- Go-Live & O&M Phase

1.13.4 Cut over strategy and “Go Live”

- i. Cut-Over Strategy: The Implementation Partner has to evolve & detail a comprehensive cut over strategy including initial data take on, sequence of data take on, set up of support helpdesk, helpdesk procedure to minimize business impact of cut over activities.
- ii. The Implementation Partner is required to undertake the following to review readiness for “Go Live”:
 - Facilitate in setting up central help desk for any queries
 - Review the health, usage and performance of the system till it stabilizes
 - Ensuring resolution / Documentation of all issues raised during implementation
 - Final configuration/ integration, volume and stress testing
 - Switch over to production environment.
- iii. Declaration of “Go Live” – the system will be declared “Go Live” when the following tasks/activities are accomplished satisfactorily:
 - Acceptance testing
 - Data migration
 - Training
 - User creation / role identification
 - Help desk
- iv. **User Adoption Support:** The Bidder/IP shall provide User adoption support, by deputing technical and functional consultants at the client site after implementation of SAP ERP Solution at that site. During the Implementation period prior to “Go Live”, the System Integrator would support BCPL users in using the system.

1.13.5 Change Management

- i. Organization Change Management: The purpose of Organization Change Management (OCM) in an implementation of this nature is to ensure that BCPL achieves the expected results from its investment in Information technology in a short span of time. Change Management procedures should address Organizational benefits as well as benefits to the employees. Change Management methodology from the Vendor shall ensure the following:
 - Employees feel comfortable in their work
 - Employees understand and appreciate why the change is necessary, what will change and why
 - Employees understand what is expected of them and the relevance of the changes they must make
 - Employees are sufficiently trained to perform new skills at a superior level of performance
 - BCPL benefits by standardization of processes across businesses to the extent possible
 - BCPL benefits by successful implementation of streamlined processes, elimination of non-value-added activities / processes and an enlightened and empowered

workforce.

- ii. OCM shall focus on coordinating and integrating key leadership, organizational, technology, and cultural issues to achieve the BCPL's goals and objectives. OCM as a process shall help identify the change process, stress the importance of organizational alignment, and introduce and identify the necessary tools and techniques needed to address issues in the Organization.

1.13.6 User adoption and stabilization support

- i. After launching of the SAP ERP solution or making it "Go Live", the Implementation Partner will provide user adoption and stabilization support for the implementation services for 26 weeks from the date of "Go Live" period. During this phase, the Implementation Partner will take up task related to bug fixing (if any) in customization made in the system by the Implementation Partner, maintain back-ups of the implemented system and coordinating with SAP ERP Solution OEM for any base SAP ERP solution related issues. Some of the other activities in this period will include but not limited to
 - Post "Go Live" Support Strategy
 - Hand holding the users
 - Post "Go Live" Monitoring
 - Post "Go Live" Review
 - Monitoring and fine tuning system response
- ii. The support activities during this period will include the following.
 - Help desk operations - Initial Response Immediate telephonic response and support for usage related and other minor problems. Dial-in support for corruption handling, minor bug fix.
 - Onsite support - On-site support for hand holding the users, database recovery and data synchronization after crash, performance tuning, bug fix, update for all critical functions.
 - OEM support – Ensuring SAP ERP Solution OEM services for system performance, upgrades / patches etc.
 - Training - Follow-up training to ensure the users become comfortable in using the SAP ERP Solution
 - Documentation - upgrade the Documentation system on any new releases and provide any updates of technical and functional manuals
 - Minor Development – configuration of reports, modification to work flow if required, user/role creation for additional users etc. This will be done through a dedicated on site team which other than doing the system related tasks will also carry out these activities.

1.13.7 Project Success Criteria

The finished SAP ERP solution meets planned scope and specifications

- No issues pending at the end of support period
- "On-line" transactions of all implemented modules – No backlog / offline transaction data entry during the last month of support

The project is completed on time & All Users adopt the software according to plan.

1.13.8 User feedback and Internal Audit

- i.** The Implementation Partner is expected to build adequate mechanisms to get the feedback from different users of the SAP ERP Solution during different stages of the project. These users/stake holders for giving feedback will be identified by BCPL.
- ii.** The Implementation Partner is expected to deploy in this project the expertise of experience of similar projects carried out by it earlier. Although it is not expected that these experts will be full time on site for the project, it is expected that all the key deliverables will go through a review with these experts. Similarly the Implementation Partner is expected to deploy all the quality assurance mechanisms as per international quality standards for this project.
- iii.** The Implementation Partner should clearly indicate up front what are the deliverables which will go through internal review, what type of expertise will be deployed for these reviews and what are the deliverables which will follow the quality assurance plans.
- iv.** If any of the deliverables are not acceptable to BCPL or its appointed experts, it will have the right to seek deployment of experts from Implementation Partner to review the deliverables.

1.13.9 Key Project Activities:

High-level project activities for SAP ERP implementation and deliverables as envisaged for this Project are detailed in Annexure 01. The list is tentative at this stage and detailed list of deliverables for a given Stage / sub-Project shall be finalized during the Project Preparation phase of the respective Stage / sub-Project, and the same will be signed-off (physical or electronic signature, as applicable) by Implementation team and BCPL Program Manager. This shall then be the list of deliverables for the phases under that Stage / Sub-Project.

Scope of SAP Implementation

1. Objective

BCPL intends to establish an integrated Information System architecture to enable the organization to leverage information for competitive advantage in a deregulated market scenario. Towards this, BCPL has planned for implementation of SAP ECC 6.0 with Enhancement Pack 7 or latest with Oracle database on x86 processor based virtual environment.

BCPL is now in the process of selecting an experienced and competent Implementation Partner (IP) for the implementation of SAP as the backbone of its Systems architecture including conceptual & detailed business process design, configuration, customization, localization, Data migration, Training etc for the complete business of BCPL and successful implementation of the SAP ERP solution across all the offices and units in India. The ASAP methodology will be required to be used for implementation so that the objectives of implementation can be achieved in the shortest possible timeframe.

- Move up the value chain
- Achieve higher customer service and satisfaction
- Improve productivity
- Optimize cost
- Improve efficiency
- Achieve lower inventories

BCPL and IP as a team will work together on the following areas:

- Enable end-to-end business processes adopting best industry practices
- Inter-connect business and process control systems (wherever applicable)
- Standardize processes across locations and functions
- Provide Management Information to support new organizational structures
- Better decision support
- Better operation control

2. SAP Software & Licenses

The SAP licenses available with BCPL are placed at Annexure # 02. The Implementation partner shall implement all the scope of work within the functionalities made available by these licenses or through custom development. In no case any functionality / feature, not covered by these licenses, shall be activated / utilized by the implementation partner. Any non-compliance in this shall be implementation partner's responsibility in total. Further the IP shall also arrange SAP license audit before go-live.

3. Geographical Project Scope

4.1 Petrochemical Business:

- BCPL, Lepetkata, Dibrugarh, Assam
- Duliajan and Lakwa, Assam
- Disaster Recovery Site, GAIL, Sector-1, NOIDA.
- GAIL's Headquarter and Zonal/Marketing Offices

- Consignment Stockiest.

4. **Overall Functional Scope**

- a) The Primary objectives is to achieve following:
 - (1) Implementation of SAP for all Business Processes of BCPL as mentioned in the scope.
 - (2) Compliance on all applicable statutory and regulatory laws.
 - (3) Compliance and Conformation to the audit and vigilance recommendations.
- b) Project Management
- c) Implementation of following modules / sub-modules
 - (1) Financial Accounting and reporting
 - (2) Cost and Revenue Accounting (Overhead cost controlling)
 - (3) Asset Management
 - (4) India Localisation
 - (5) Human Capital Management with Payroll
 - (6) Materials Management
 - (7) Warehouse Management
 - (8) Quality Management
 - (9) Sales and Distribution
 - (10) Interface with legacy applications/systems
- d) The functionalities, in SAP system, shall be incorporated in totality including changes in all related components or landscapes.
- e) All SAP standard configuration & customization and enhancement, exits & customer development are to be tested for and made Unicode syntax compliance.
- f) The requirements mentioned in this scope are to be achieved through standard SAP functionalities or enhancements using exits / badi's / enhancement points etc.to the extent possible. Modifications in SAP standard programs using access key shall be resorted to only in cases where the required functionality cannot be achieved using SAP standard functionality & user exits / badi's / enhancement points. Further the implementation partner shall submit the proper reason and justifications for any access keys required for achieving the scope of work while submitting the request for access key.
- g) The scope of work for Implementation has been mentioned in the clause 5.0 and 6.0. However the further detailing of same shall be carried out during blue print phase of the project execution
- h) The Implementation is also to be carried out at disaster recovery site to ensure business continuity.

5. **Functional Project Scope**

BCPL plans to implement SAPECC 6.0 or latest solutions in multiple phases, integrating business processes at different regions/locations with the help of an Implementation Partner (IP). BCPL envisages to implement the core business processes. The implementation of ECC 6.0 suite of Applications and Internet Solutions will cover all the offices and units of the Organization, the details of which are covered in the section 4.1.

The scope of Bidder/IP includes, but is not limited to, detailing of functional modules listed in this document, understanding of BCPL's Business Process, design and development of implementation

plan for all the phases, detailing of co-existence strategies, configuration and realization of ECC 6.0 or latest solution, development of interfaces with the legacy applications/systems, integrations, testing, data migration/ porting, technical support, function, user training, final preparation, switch-over to SAP, post “Go-Live” support, setting up of competency centers, documentation, recommendation for technical infrastructure, project management and monitoring. The scope of work also includes program management, change management, process improvement, quality review, solution assurance services and other services as detailed in this document. Bidder is required to critically review the purpose of implementation and shall ensure inclusion of all other essential services (not mentioned specifically) for achieving the objective within the time frame for successful implementation.

6.1 Functional Scope

The details of various functional modules to be implemented in are as follows:

6.1.1 Financial Accounting and reporting

- This includes Global settings and General ledger processing, Accounts Receivables, Accounts Payables, Funds Management and Budgetary Controls, Bank reconciliation and accounting
- Financial statements, report developments for schedules and Notes to the accounts
- Period-end closing
- Preparation of Income Tax Return of the Company, Sales Tax returns and unit-wise Excise returns of the company
- Creation of new GL

6.1.2 Cost and Revenue Accounting (Overhead cost controlling)

- This includes Cost planning, overhead allocation, internal order accounting
- Sales and Operations planning, standard cost estimates
- Profitability Analysis
- Cost Centre / Profit Centre Accounting

6.1.3 Asset Management

- Capitalisation of Assets on the basis of legacy data
- Handling of Fixed assets, Asset maintenance, Receipts, Depreciation, Transactions, Retirements, Closing operations
- Direct capitalization - Blanket orders, procurement and capitalization, budget updates and depreciation analysis

6.1.4 India Localisation

- CIN implementation includes the statutory requirements for Indian tax laws / Companies Act and reports thereof.
- Excise duty and the central value-added tax system (CENVAT)

- Withholding tax (also known as tax deducted at source)
- Sales tax
- Local Sales Tax / VAT, Central Sales Tax
- Domestic procurement with Excise
- Import procurement
- Stock Transfers
- Sub-contracting
- Excise registers (RG1, RG23 A/C, RG23D)
- CENVAT Adjustments / Utilization
- Service Tax Goods Transport Agency
- Entry tax management and payment

6.1.5 Human Capital Management with Payroll

- Maintain Organization structure and reporting structures – Organization Management Module
- Personnel Administration Module- Maintain personnel administration data of employees
- Maintain personnel development data for employees – Personnel Development Module
- Performance Appraisal
- Maintain training records of employees – Training & Event Management Module
- Payroll processing and Maintain payroll related data of employees – Payroll Module
- Maintain time (attendances and absences) details of employees – Time Management Module.
- Maintain Travelling details of employees- Travel Management Module
- ESS/MMS Services like claims, indent, approval, leave, personal information etc.

6.1.6 Materials Management

- PURCHASE – Procure to pay (Indigenous / Imports / Custom Clearance)
- External service management
- Inventory management
- Masters – Excise masters, Material masters, Vendor masters, Vendor evaluation others.
- India localization of taxes
- Source indicator
- Taxation
- Approval process for procurement as per company procurement procedure.
- Consumption based planning

6.1.7 Warehouse Management

- Binning and Picking strategies for warehousing of outbound products.

6.1.8 Quality Management

- Respective samples details (with SOP, necessary Parameter) need to be appear in respective category (Like Plant, sub plant) in ERP Screen
- Calibration Planning & Schedule, breakdown history, downtime history, auto alert for preventive maintenance & calibration.
- Issuing online test certificates for Finish goods.
- Usage decision for raw material taken by indenter or user.
- Generation of daily critical report and monthly report.
- Control Charts
- Trend Analysis
- Multiple Specifications
- Attachment of Test Methods/Sop with the Sample @ Data entry level
- Manually select and change specific inspection specifications
- Dual control ensured in results recording

6.1.9 Sales and Distribution

- Includes Sales/Contracts order processing, Customer Master, Stock transfers, export/deemed export, Invoicing, Return Order, Shipment & Transportation, Transporters bills settlement, Free Sample, business partner definition.
- Management of Logistics i.e Entry/exit check as per procedure for trucks/tankers and maintaining Transporter Master. Also delivery of goods monitoring
- Pricing
- Rebates and discounts processing
- Taxation for sales/Statutory requirement (Excise/Sales tax/ customs etc.)
- Credit Management(BG (Bank Guarantee) of Consignment Stockiest shall be in GAIL's name and GAIL shall provide Corporate Guarantee to BCPL. Exposure of the BG needs to be adjusted against payments received by BCPL. In case of export, Confirmed LC (Letter of credit) will be issued by importer to BCPL.)
- Silo Management: Provides functionality for managing physical inventories in tanks by creating tank dips in the R/3 System, and comparing those inventories at any time with the book stocks. In that way, gains and losses can always be determined, and goods movements can be monitored.

NOTE: GAIL India Ltd. will be exclusively marketing 100% of BCPL's Polymer products and Liquid Hydrocarbon by-product through its Headquarter, Zonal Offices and Consignment Stockiest (CS) all over India. Sales order/Stock Transfer order through GAIL's designated

Sales/Zonal offices or Consignee Stockiest will be received at BCPL Plant and subsequently product will be dispatched from the plant site with invoice and quality certificate. Real-time product stock of BCPL's Product Warehouse needs to be available to all GAIL's Sales/Zonal offices and BCPLs offices.

6.1.10 Interface with Legacy applications / System

It is intended that all the functionalities described in Bid Document be successfully mapped by Implementation Partner (IP) in the SAP System. The required level of mapping shall be ascertained during the course of Project execution. There are going to be legacy Applications/ Automation Systems either to be fully or partially mapped with SAP. Interfaces (File/RFC) will have to be developed in ECC itself without considering PI/XI, for an application /functionality required but not mapped. Interfaces for following legacy applications/systems are intended to be developed:

- Material Codification
- Terminal Automation System (Liquid Hydrocarbons)

The above list of legacy applications/systems is not exhaustive and the actual list of legacy applications/systems will be finalize at the time of Business Blue Printing. ALL interfaces required, intermediately/finally for the functionalities mentioned in the Bid Document are in the IP scope of work. Any development effort, other than in legacy system, required for achieving the interface shall also be in the scope of Implementation partner.

6. General Project Management

- a) Project planning, management and consulting of entire project. Implementation Partner shall be responsible and will take full ownership of the project to ensure complete delivery of Implementation in scheduled time and quoted rates.
- b) Preparation of Master project plan and detailed step by step implementation action plan for all systems within SAP system landscape.
- c) Preparation of the detailed step by step cutover plan during production setup.
- d) Resource Planning and deployment.
- e) SAP performance monitoring during project lifecycle as per ASAP Methodology.
- f) Development guidelines:
 - (1) All developments (Programs / Modification / enhancements / adjustments / objects) to follow a standard nomenclature considering the existing nomenclature.
 - (2) All developed objects shall be optimized / tuned for effective / better performance.
 - (3) All developments shall be Unicode syntax compliant.
 - (4) The requirements mentioned in this scope are to be achieved through standard SAP functionalities or enhancements using exits / badi's / enhancement points etc.to the extent possible. Modifications in SAP standard programs using access key shall be resorted to only in cases where the required functionality cannot be achieved using SAP standard functionality &user exits / badi's / enhancement points. Further the implementation partner shall submit the proper reason and justifications for any access keys required for achieving the scope of work while submitting the request for access key.

- (5) Documentation of all developments, carried out during the implementation, to be maintained in a file server.
- (6) Knowledge transfer on all developed objects and tools used for creating the objects to BCPL team for post implementation development support and maintenance.

Annexure # 1: List of Deliverables

Deliverables from Implementation team
A. Project Preparation Phase
Detail scope document covering all functions and business processes
Project Charter outlining • Project Scope, Goals and Objectives • Project Organization / Structure Chart • Detailed Project Plan / Schedule • Approach to implementation strategy • Project Quality Management Plan • Project Risk Management Plan • Project Escalation Procedures • Project Change Management Plan • Document standards
<i>Project infrastructure requirements (At all locations)</i> <i>Project office requirements</i>
Training Plan for the Project Core team members outlining Training courses, mode, venue and schedule of training
B. Business Blueprint Phase
Finalized detailed scope document
Business blueprint document covering “To-Be” process design document covering • Overall Organization structure design / definition • Overall Organization structure design mapping into SAP • List of business processes for coverage and enhancements • Map major business flows and initial assessment of coverage • Process charts / flow diagrams outlining broad processes and sub-processes for each function • Checks and controls for processes • Roles and responsibilities for processes • Business process improvement planned through new process design • Definition of parameters for system configuration • Definition of master/ transaction data structure • Identification of reports – standard and customized

Technology document outlining

- Details of Technical architecture
- Operating System environment and hardware platform
- Defining development system environment requirements
- Defining support infrastructure requirements
- System operating procedures

Final Project Plan

Change management document covering:

- Identifying change management areas and activities
- Communication strategy for change management

Blueprint sign-off document

C. Realization Phase

Creation of Configuration document based on business requirement

Test Plans / Scripts, sample business data and Test procedures for module testing and integration testing and Sign Off the same

Issue closure report indicating compliance to the issues identified during Module Test and Integration test

Final Listing of Customized ABAP/BADI development document for developments, interfaces, enhancements, conversions, report requirements.

Data migration plan / strategy consisting of:

- Mapping existing data with SAP master data structures
- List of data to be migrated with details of granularity (transaction level or consolidated)
- Data conversion procedures (manual, tool based)

Program specification document for forms, reports, interfaces , conversions, enhancements (RICEF):

- Functional specifications
- Technical specifications
- Interface design document

User authorization matrix plan document

User id , role , transaction code, authorization object to values and activity type

End-user documentation

System user manuals

Process presentation

End-user Training plan Training requirements / courses, mode of training, venue of training and schedule of training Create Training System List of participants
D. Final Preparation Phase
Definition of cutover strategy and plan
User authorization matrix document Identification of users mapped to business roles and business authorization profiles
Updated / Modified final configuration document
Project Go Live Checklist
System administration document Data management and backup procedures Security procedures (user creation and role assignment) Disaster recovery recommendation document
Internal Helpdesk plan for establishment. Help desk infrastructure Helpdesk staff / contact details Helpdesk service delivery processes
Communication plan for end-user during Go-Live Areas of communication Channel of access for communication (e.g. contact person, phone number, e-mail ID)
Go-Live sign-off document
E. Post Go-Live Support Phase
Project go live sign off document

Annexure # 02: List of Licenses

Sl.NO	DESCRIPTION	License Metric
(A)	(B)	(C)
A1	SAP Application Developer User	03
A2	SAP Application Professional Users	108
A3	SAP Application Employee User	492
A4	SAP Payroll Processing	02 Master Records (units of 500)
A5	Oracle DB	For the above
A6	SAP ERP Foundation Starter including ERP Component for ERP Package	

Annexure– 04: Roles & Responsibility for the project

Project Stages	Activity	Primary Responsibility	Secondary Responsibility
Project Preparation	Detailing Project Scope based on the contract document	IP (Implementation Partner)	BCPL
	Preparing preliminary Project Plan / schedule outlining the activities, interdependencies, timelines and deliverables for tasks.	IP	BCPL
	Detailing project office infrastructure requirements (for all Stages of project).	IP	BCPL
	Preparing Project Organization chart with details of names of personnel from IP and BCPL team and roles and responsibilities IP / BCPL.	IP/BCPL	-
	Identifying Core team and mobilizing team members for the BCPL project	BCPL	-
	Identifying IP Consulting team and mobilizing team members for the BCPL project	IP	-
	Define Project standards and procedures (Risk/ Quality/ Change/ Escalation/ Communication management)	IP	BCPL
	Define the implementation strategy	IP	BCPL
	Setting-up the project office (arrangement of office space, furniture, etc. shall be made available to IP.)	BCPL	-
	Defining Training plan for Core team members	IP	BCPL
	Training deployment of Core team	BCPL	-

Project Stages	Activity	Primary Responsibility	Secondary Responsibility
	members		
Business Blueprint Design	Prepare Final Scope Document	IP	BCPL
	Organizational structure definition	BCPL/IP	-
	Organizational structure mapping into IP	IP	BCPL
	Defining “To-Be” processes in each functional area of BCPL with organization structure, list of business processes for coverage & enhancements.	IP	BCPL
	Prepare Business Blueprint Document	IP	BCPL
	Signing off To-Be Business Blueprint document from Business Process Owners.	BCPL	-
	Defining forms, reports, interfaces, conversions and enhancements (RICEF) for each functional area with details of formats and frequency of report generation	IP/BCPL	IP
	Sizing of IP Servers	IP	BCPL
	Defining System Operating Procedures/Technical architecture/Support for development environment	IP	-
	Setting up development system environment	IP	BCPL
	Defining data migration requirements and strategy	IP	BCPL
	Identify Change Management Areas & activities.	IP	BCPL
	Initiate change management activities	BCPL	IP
	Establishing OSS connectivity and Help-line	IP/BCPL	-
Realization	Setting up system quality assurance (QA) environment	IP	BCPL
	Define Gap Analysis & Final Listing of Customized development documents for developments, interfaces, enhancements, conversions & report requirements.	IP	BCPL
	Configuring / customizing software application as per design documents & BCPL’s requirement	IP	BCPL
	Programs for forms, reports, interfaces, conversions and enhancements (RICEF).	IP	BCPL
	Testing all developments	IP	BCPL

Project Stages	Activity	Primary Responsibility	Secondary Responsibility
	Identification of data elements -Mapping existing data with IP master data requirements	IP	BCPL
	Extraction/ cleaning of data from existing systems and formatting in IP templates.	BCPL	IP
	Loading (migration) of sample data into IP using data migration tools / conversion programs	IP	BCPL
	Defining Unit Test Plans / Scripts	IP	BCPL
	Unit tests of functions and processes with model data (signed off)	BCPL	IP
	Create detailed integration test scripts and approval	IP	BCPL
	Create master data for testing	BCPL	IP
	Integration testing of the configured system using the populated master/transaction data	BCPL	IP
	Identify Power users, Plan training	BCPL	IP
	Train core team / Power Users	IP	BCPL
	Signing off Test result reports for Module Testing & Integration Testing	BCPL	IP
	Identifying and resolving issues based on the test result report	IP	BCPL
	Revising System Configuration and Parameterization document	IP	BCPL
	Identifying Report Requirement, Prepare Design Document	IP/BCPL	-
	Define User Authorization Management & Printer Configuration Plan.	IP/BCPL	-
	Preparing End-User documentation	IP	BCPL
	Preparing Training Plan for End Users	IP/BCPL	-
	Prepare Internal Help Desk Plan	IP/BCPL	-
	Create training documents	IP	BCPL
PREPARATION FOR GO-LIVE	Defining cut over plan & Strategy	IP	BCPL
	Setting-up the Production system	IP	BCPL
	Migrating data to the ERP system databases	IP	BCPL
	Establishing infrastructure (WAN, end	BCPL	IP

Project Stages	Activity	Primary Responsibility	Secondary Responsibility
	user devices) at BCPL sites for Go-Live		
	Defining the Communication Plan for communication with end-users	IP/BCPL	-
	Defining criteria and timelines for Go-Live	IP/BCPL	-
	Defining methodology for stress / volume testing of ERP system	BCPL/ IP	-
	Setting-up the Support Desk and Mobilizing support staff	IP/BCPL	-
	End user training (Train the trainer)	IP/BCPL	-
	End user training completion and delivery	BCPL	-
	Configuring End user ID's and authorizations	BCPL	-
	Defining disaster recovery, data backup & Security procedures.	IP	BCPL
	Mapping and making available data formats of existing applications	IP	BCPL
	Data cleansing from existing applications and conversion into new formats (for ERP)	BCPL	IP
	Performing stress / volume testing	IP	BCPL
	Establishing access to ERP system from end-user devices at different locations of BCPL.	BCPL	-
	Establishing Web access to ERP system to Business Partners / Vendors / Stockiest / Customers	BCPL	IP
	Visiting BCPL sites for end-user Support on need basis and identification of issues	IP/BCPL	-
	Prepare Communicating support plan and support systems to support end users.	BCPL	IP
	Receiving and logging end user queries / complaints	BCPL	-
Post Go-Live Support	Reporting issues registered at the helpdesk	BCPL/IP	-
	Resolving issues registered at the helpdesk	BCPL/IP	-
	Reporting issue resolution status to Project Manager of BCPL	BCPL/IP	-
	Getting signoff for resolution of issues identified during the project (including the post-implementation period)	BCPL	IP

Project Stages	Activity	Primary Responsibility	Secondary Responsibility
	Finalizing and submitting all the deliverable documents to incorporate final system configuration (Business and Technical configuration)	IP	BCPL
Ongoing activities	Convening Steering Committee meeting and defining agenda for same	BCPL	IP
	Recording Steering Committee proceedings and circulating the meeting record notes	BCPL	-
	Updating progress on issues discussed in the Steering Committee meeting and inclusion of same in subsequent meetings, if required	BCPL	IP
	Updating Project plan and progress	IP	BCPL
	Logging issues identified for the project during any Stage of the project. Raising the options to resolve the issues	IP	BCPL
	Raising the options to resolve the issues	IP/BCPL	-
	Incorporating changes in relevant project documents / deliverables based on decision on issue resolution	IP	BCPL
	Tracking the resolved and unresolved issues	IP	BCPL
	Project Risk evaluation and Risk Parameter monitoring	IP/BCPL	
	Defining, monitoring and reporting of Quality parameters	IP	BCPL
	Preparing deliverables and getting signoff from BCPL team	IP	BCPL

Abbreviations:

SP00 : TOTAL QUOTED AMOUNT (PART A + PART B + PART C + PART D + PART E + PART F + PART G + PART H) (RS.) (Inclusive of all taxes except Service tax)

SP01 : SOR for Supply of Hardware & Software for Primary & DR Site.

SP02 : SOR for DATA CENTER

SP03 : Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified AND Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)

SP04 : SOR for AMC of 03 years

SPST02 : Service tax applicable on SP02

SPST03 : Service tax applicable on SP03

SPST04 : Service tax applicable on SP04

CvtED : Amount of Cenvatable Excise Duty on SP01

CvtST02 : Amount of Cenvat Benefit on Service Tax applicable on SP02

PREAMBLE TO SCHEDULE OF RATES

- 1 Quoted rates should be as per Scope of Work.
- 2 Bidders are required to quote the rates strictly as per the below SOR and not to use any other format.
- 3 Rates should be quoted including all taxes & duties (including WCT if any as per applicable rules) except Service tax.
- 4 Quantities shown in the SOR is tentative which may increase or decrease.
- 5 The benefit of Cenvat credit of service tax quoted in SP02 shall be considered for evaluation of bids.
- 6 The benefit of Cenvat credit of Excise Duty quoted in SP01 shall be considered for evaluation of bids. Cenvatable Excise Duty Component mentioned shall be considered as mandatory discount. The Cenvatable Excise Duty shall be reimbursed to the Contractor upon submission of original Cenvatable documents as required to enable Owner to claim Cenvat benefit.
- 7 Freight quoted in SP01 is inclusive of Service Tax.
- 8 Service Tax is payable extra on submission of proper cenvatable invoice as per rules in vogue in India from time to time. Statutory variation would be dealt with as per relevant clause of GCC.

APPLICABLE FOR SP03, SP04

- 9 Total Amount is inclusive of all taxes and duties except service tax. Service Tax shall be paid extra as applicable and reimbursed to the service provider on documentary evidence. The present applicable rate is 12.36% for service tax.

APPLICABLE FOR SOR – SP02

- 10 Contractor shall indicate total cenvatable service tax amount payable under the contract mentioned in the SOR as CvtST02 . However, if the services fall under the list of services defined in reverse charge mechanism, then the liability of deposition of service tax to the tax authority by the contractor and the owner shall be dealt in accordance with Notifications issued by Government of India from time to time.
- 11 The bidder is free to quote any other rate of service Tax provided the same must be in line with the provisions of Service Tax Law in India. However, the bidder is requested to ensure applicability of quoted Service Tax as per nature of job before quoting and any difference payable on account of wrong Service rate shall be on the scope of the bidder.
- 12 In case a bidder does not indicate the rate & amount of service tax or makes any other statement (e.g. “NIL”, “Inclusive”, “Kept as Blank” ,extra at actual etc.), their quoted price shall be considered inclusive of service tax at the rate applicable at the time of bid opening (i e presently @ 12.36 %) and the job shall be awarded accordingly to the L-1 bidder after reduction of the applicable service tax amount ascertained in this regard.
- 13 In case the bidder quotes any other rate which is less than prevailing rate as per service tax rules by virtue of any abatement/ exemption then the bidder shall make note of such abatement/ exemption, else their quoted price shall be evaluated after loading of service tax at the rate applicable without any abatement (i. e. presently @ 12.36 %), at the time of bid opening instead of lower rate of service tax as quoted by the bidder.
- 14 In case the applicable amount towards Service Tax as mentioned by the bidder is considered for giving benefit during evaluation of bid as stated above, the bidder must ensure to submit their invoice as per their declared applicable taxes & duties. If the bidder does not pass on the benefit to that extent to BCPL, the differential amount shall be deducted from their bill.
- 15 While quoting against the tender, bidder shall have the option to decide on the method of valuation prescribed under the service tax rules, i.e, either on actual service portion or deemed service portion.
- 16 Whether Service Tax is to be paid on actual service portion, the bidder(s) shall indicate the value for service portion on which the Service Tax is applicable.
- 17 Whether Service Tax is to be paid on deemed service portion as per percentage prescribed, the bidder(s) shall indicate the percentage (presently 40%, 60% or 70%) of the gross works contract value on which Service Tax is applicable.
- 18 Whether the bidder opts for paying Service Tax on deemed service portion, the gross works contract value or the purpose of payment of service tax shall mean the sum total of the gross amount charged for the works contract and the fair market value of all goods and services supplied in or in relation to the execution of the works contract, whether or not supplied under the same contract or any other contract.

PART –A

SCHEDULE OF RATES
[UNPRICED BID]

TOTAL QUOTED AMOUNT FOR EVALUATION OF THE TENDER

Sl. No.	Item Description	(Rs.) (In figures)	(Rs.) (In Words)
SP01	PART A	Do Not Quote	Do Not Quote
	PART B	Do Not Quote	Do Not Quote
	PART C	Do Not Quote	Do Not Quote
	PART D	Do Not Quote	Do Not Quote
SP02	PART E	Do Not Quote	Do Not Quote
SP03	PART F	Do Not Quote	Do Not Quote
	PART G	Do Not Quote	Do Not Quote
SP04	PART H	Do Not Quote	Do Not Quote
SP00	TOTAL QUOTED AMOUNT (PART A + PART B + PART C + PART D + PART E + PART F + PART G + PART H) (RS.) (Inclusive of all taxes except Service tax)	Do Not Quote	Do Not Quote
SPST02	Applicable Service Tax on SP -02 including EDU CESS & HIGHER EDU CESS SPST02 (_____)	Do Not Quote	Do Not Quote
CvtST02 + CvtED (Amount of cenvat benefit considered for evaluation)		Do Not Quote	Do Not Quote
GRAND TOTAL [SP00 + SPST02 - (CvtST02 + CvtED)]		Do Not Quote	Do Not Quote

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
PART A	A.1	Routers	Primary Site	No.	4	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	4	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.2	Link Aggregators / Load-Balancers	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.3	External Firewall with IPS	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.4	Internal Firewall with IPS	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.5	L3 Switch	Primary Site	No.	4	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	4	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.6	Edge Switch	Primary Site	No	3	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	3	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
						Quote					
	A.7	Reverse Proxy	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.8	VPN Appliance	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	A.9	AAA Appliance	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	TOTAL AMOUNT : PART - A				Do Not Quote						
PART B	B.1	Virtualization Servers	Primary Site	No.	3	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	3	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.2	Standalone Servers	Primary Site	No.	6	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	6	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.3	SAN Storage	Primary Site	No.	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
		DR Site	No.	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.4 SAN Switch	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
		DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.5 Tape Library	Primary Site	No.	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
		DR Site	No.	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.6 External LTO 6 Tape Drive	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
		DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.7 LTO 6 Tape Media	Primary Site	No.	50	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
		DR Site	No.	50	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.8 Cleaning Cartridge for Tape library and drives	Primary Site	No.	5	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
		DR Site	No.	5	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.9 Virtualization Software	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
	B.10	Operating System for SAP	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	B.11	Backup & Replication solution	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	TOTAL AMOUNT : PART - B				Do Not Quote						
PART C	C.1	Windows Server 2012 User CAL OLP	Primary Site	No.	650	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	C.2	MS Exchange Server 2013 Standard User CAL OLP	Primary Site	No.	650	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	C.3	MS Exchange Server 2013 Standard OLP	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	C.4	Digital Server Certificate and any other software for Exchange and Intranet setup	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	C.5	Database for non-SAP applications	Primary Site	LS	1	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	TOTAL AMOUNT : PART - C				Do Not Quote						
PART D	D.1	E-Mail Gateway	Primary Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
			DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	D.2	Web Gateway with	Primary	No.	2	Do Not	Do	Do Not	Do Not	Do Not Quote	Do Not Quote

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
	Content-filtering	Site			Quote	Not Quote	Quote	Quote	Quote		
		DR Site	No.	2	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	D.3	Enterprise AV	Primary Site	No.	500	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote	Do Not Quote
	TOTAL AMOUNT : PART - D				Do Not Quote						
SP01	TOTAL QUOTED AMOUNT (PART A + PART B + PART C + PART D) (RS.) (Inclusive of all taxes and duties)				Do Not Quote						
	Percentage of Cenvatable Excise Duty benefit Passed onto BCPL				Do Not Quote %						
CvtED	Amount of Cenvatable Excise Duty (In Rupees)				Do Not Quote						

SOR FOR DATA CENTER**CIVIL & INTERIOR WORKS**

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Providing and fixing of Access floor systems with a maximum finished floor height of 600 mm from the existing floor level in the Server room. The raised floor shall be provided with Raised Access Flooring system with access floor panel of size (600 x 600) mm . Refer the details as in technical specification.	SqM	60	Do Not Quote	Do Not Quote	Do Not Quote
2	Providing and Laying false ceiling shall be provided with Armstrong Lay in (Hot dipped galvanized steel) metal ceiling system 600 x 600 x 5mm with standard perforation of 2.5 mm dia (16% open space) and fleece with NRC of 70 & CAC 36 to be laid on Armstrong grid system. Armstrong Orcal Lay in metal ceiling System consisting of 600x600mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5mm dia & open area of 16%. The back of the tile should have black acoustical fleece with NRC of 0.70 & CAC 36 to be laid on Armstrong grid systems with 15mm wide T - section flanges Colour white having rotary stitching on the Main Runner, 1200 mm & 600 mm Cross Tees, fixed to the structural soffit by Butterfly clip hangers, suspension wires & anchor fasteners as per the manufacturer's specification. Suspension wires to be provided at every 600mm c/c with two nos of ties on each anchor fastener, Perimeter trim of Trulok wall angle in white colour secured to wall at 450mm maximum centers.	SqM	60	Do Not Quote	Do Not Quote	Do Not Quote

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
3	Providing and laying insulation material. The floor and ceiling slabs should be heat-insulated with a heat insulating material to avoid condensation on floors below and above and to reduce the heat transfer in the server/network room area. The insulation shall be done with 13 mm thick self-adhesive aluminum foil face nytrial rubber. The floor and ceiling shall be coated with epoxy paint.	SqM	130	Do Not Quote	Do Not Quote	Do Not Quote
4	Providing and laying false ceiling of mineral fiber Board (600 x 600 x 15mm) of Armstrong (ELIT RH99) of Equipment. Laid on Grid system (Micro lock edge) with 15mm thick T section(White) having main runner 1200mm x 600mm, cross Tee at 295 HT. Mineral Fibre Board moduler False Ceiling in Armstrong in Board edge Fissured ANF tiles of size 600mX600mmX15mm having light reflection over 75%, Relative Humidity 99%, fire performance class0/class1 (BS 476) 24XL - Hot Dipped Galvanized Steel Suspension System having rotary stitching on main runner, 1200 mm & 600 mm cross tees with 15mm wide flanges of white colour with standard perforation of 2.5mm dia. (16% open space) fleece with NRC of 0.70 & CAC 36, fixed to the structural soffit by Butterfly clip hangers, suspension wires & anchor fasteners as per the manufacturer's specification, Suspension wires to be provided at every 600mm c/c with two nos of ties on each anchor fastener, Perimeter trim of Trulok wall angle in white colour secured to wall at 450mm maximum centers	SqM	60	Do Not Quote	Do Not Quote	Do Not Quote

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
5a	Providing and fixing full height 125 mm thick fire line Gyp Board using 125 mm thick double fire line gyp-board on both sides with GI sheet metal vertical stud frame of size 75 mm thick fixed in the floor and ceiling channels of 75 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing shall be made by self tapping screw width vertical studs being at 610 mm intervals. The same should be inclusive of making cut-out for switchboards, sockets, grills etc. It shall also include preparing the surface smoothly and finally finishing with one coat of approved brand of resistant coating.	SqM	200	Do Not Quote	Do Not Quote	Do Not Quote
5b	Providing and fixing the glass partitionare to be of preferred manufacturer complying with IS 1548-1966 as per approved quality and sample to be of the selective qualities specified and free from bubbles, smoke, wanes, waviness, air holes and any other defects	SqM	11	Do Not Quote	Do Not Quote	Do Not Quote
6	Providing and applying the fire rated paint of approved quality & shade, by sand papering the surface, applying one coat of primer, prepare the surface with two coats of full putty, sand papering again, repeating a coat of primer, applying one coat of paint, touching up with putty & applying two final roller coats of fire rated paint, to internal walls of the server room and to the exposed ceiling surface in the critical area.	SqM	400	Do Not Quote	Do Not Quote	Do Not Quote

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
7	Providing and laying 20mm thick vitrified tiles 600 x 600 size conforming to IS:15622: 2006 to be fixed with special adhesive of Dr. Fixit Fevimate X-L or equivalent in areas other than false flooring areas mentioned in the drawing such as Lounge, Corridors, Manager Room & Engineering Room. All areas should have 6" skirting. Cable trenching arrangement shall be made as per drawing	SqM	60	Do Not Quote	Do Not Quote	Do Not Quote
8	Providing and fixing of 2 mm thick anti-static vinyl flooring over the prepared surface. It shall be fixed by applying the appropriate cement paste to fix the vinyl flooring over the base floor slab.	SqM	35	Do Not Quote	Do Not Quote	Do Not Quote
9	Supplying and fixing fire rated Double leaf metal doors of size 1500X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	2	Do Not Quote	Do Not Quote	Do Not Quote
10	Supplying and fixing fire rated single leaf metal doors of size 1200X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	2	Do Not Quote	Do Not Quote	Do Not Quote

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	Supplying and fixing the glass door of size 900 X 2100mm in the Workstation room should be double glass panel with one glass should be with 2 hr fire rated wired mesh glass with min 5 mm thickness and other glass 6 mm thick toughen type. Glass should be properly fixed in the Aluminium frame work with the size of 90 x 50 x 2 (304 Grade).	No.s	3	Do Not Quote	Do Not Quote	Do Not Quote
12	Supplying and fixing Emergency door for fire rated single leaf metal doors of size 1200X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	1	Do Not Quote	Do Not Quote	Do Not Quote
13	Providing and laying Work Table of size 1200 mm x 750 mm including in-built arrangement of drawers, cupboard, computer keyboard tray, C.P.U. rack with provision for raceway below the worktop for carrying wires and switches including all as per specification and as approved by Engineer in-charge and as per catalogue of preferred make	No.s	8	Do Not Quote	Do Not Quote	Do Not Quote
14	Providing and fixing Long back hydraulic gas lift chair for workstations with comfortable arms rest of size 650 mm (L) x 650 mm (D). The height of the chair should be adjustable from 1190 mm to 1300 mm with seat height adjustable from 420 mm to 540 mm. The long back chairs should have aesthetically pleasing and ergonomic design with revolving mechanism	No.s	8	Do Not Quote	Do Not Quote	Do Not Quote

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
15	Providing & fixing METAL ramp with 10 to 25 degree inclination with necessary hard wood/metal framework with hard wood/metal deck detachable type & fixed with vertical surface of false floor..	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
16	Providing & fixing glow signage on both sides of the door shutters marking PUSH / PULL along with other signage marking different work areas and emergency signs.	No.s	5	Do Not Quote	Do Not Quote	Do Not Quote
17	Providing and laying in position cement concrete of specified grade including the cost of Reinforcement, centering and shuttering - All work up to plinth level : 1:1½:3 (1 Cement: 1½ coarse sand: 3 graded stone aggregate 20 mm nominal size)	CuM	20	Do Not Quote	Do Not Quote	Do Not Quote
18	Trench work for 350 mtr	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
19	Gypsum ceiling with all necessary support for server room only	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
20	Pest control	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
21	Water proofing paint insider the server room	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – I (CIVIL & INTERIOR WORKS)				Do Not Quote		

ELECTRICAL WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	INTERNAL ELECTRICAL WORKS					
	Supply, installation, testing & commissioning of the following as per technical specifications & relevant drawings and standards.					
1.0	LT PANELS & FACTORY-BUILT MCB DISTRIBUTION BOARDS:					
1.1	LT PANELS:					
	Supply, installation, testing and commissioning of 415v, 50HZ, LT Switchboard as per specifications, schematic drawings and SLD.					
1.1.1	Data Center Main Panel-As per SLD	Each	1	Do Not Quote	Do Not Quote	Do Not Quote
	incomings:					
	2no. Of 320A, 4P,MCCB					
	320A,415V,50Hz, aluminium bus bar					
	Mechanical interlocking arrangement between incomers					
	1no. Transient Voltage Surge Suppressor(TVSS)					
	Outgoings:					
	3no. Of 63A,TPN,MCB for PAC units					
	1nos. Of 40A,TPN,MCB for LPDB incoming					
	1nos. Of 40A,DP,MCB for CACDB incoming					

	2nos. Of 125A,TP+2N,MCCB for UPS units incomings					
	2nos. Of 32A,DP,MCB for utility UPS units					
	1nos. Of 125A TPN MCCB for spare					
1.1.2	Power Distribution Units(PDUs)-As per SLD	Each	2	Do Not Quote	Do Not Quote	Do Not Quote
	incomings:					
	1nos. Of 125A, TP+2N,MCCB					
	125A,TP+2N+E,415V,50Hz, copper bus bar					
	With Transient Voltage Surge Suppressor(TVSS)					
	Outgoings:					
	14nos. Of 32A DP MCB,10kA/Sec. for HD & LD Server racks &Network racks					
	2nos. Of 32A DP MCB,10kA/Sec. for spare					
1.1.3	LPDB (4 way TPN DB)-As per attached drawing(1 x 40A TPN MCB as incomer and 12Nos.of 10A/16A SP MCB as outgoing)	Each	1	Do Not Quote	Do Not Quote	Do Not Quote
1.1.4	CACDB (8 way SPN DB)-As per attached drawing(1 x 40A DP MCB as incomer and 6Nos.of 10A SP MCB as outgoing)	Each	1	Do Not Quote	Do Not Quote	Do Not Quote
1.1.5	Utility UPS DB (12 way SPN DB)-As per attached drawing(1 x 32A DP MCB as incomer and 10Nos.of 10A/16A SP MCB as outgoing)	Each	1	Do Not Quote	Do Not Quote	Do Not Quote
1.1.6	32A DP MCBs near to CAC units for controlling the units	Each	4	Do Not Quote	Do Not Quote	Do Not Quote
2.0	INDUSTRIAL TYPE SOCKETS AND PLUG TOPS					

2.1	Supply, installation, testing and commissioning of factory made metal clad totally enclosed with cast aluminium housing with industrial socket and socket with scrapping earth connection and plug top. In case of interlocked socket, the interlocking should ensure that the plug cannot be inserted or withdrawn while the switch is in 'ON' position. (all switches & sockets shall be housed in painted MS boxes). The erection rate shall include supply of angle iron frame work and fixing accessories such as grip bolts/grouting/ welding to steel structures etc.,					
A	32A, 230V, 2P+E, IP 44 Male top with socket, Plastic moulded industrial socket with suitable straight plug, Surface mounted / Raceway mounted type. The pricing shall include to make the required supports on the floor/Raceway along with required accessories.	Each	28	Do Not Quote	Do Not Quote	Do Not Quote
2.2	MODULAR TYPE					
	Supply, erection, testing and commissioning of power points by providing following switches/sockets mounted on suitable size metal coated boxes fixed flush/surface on to the wall with all fixing and wiring accessories.					
A	6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.	Each	6	Do Not Quote	Do Not Quote	Do Not Quote
B	6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.(UPS Power Sockets for Safety & security purpose)	Each	8	Do Not Quote	Do Not Quote	Do Not Quote

C	3 X 6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.(UPS Power)	Each	9	Do Not Quote	Do Not Quote	Do Not Quote
3.0	SUB-MAINS/CIRCUIT MAINS/POWER WIRING					
3.1	Supply and running of 1100 V grade FRLS PVC insulated copper conductor wires in 2mm thick FRLS PVC/ MS conduits as per Technical specification. The rate shall include all wiring & conduit accessories as applicable.					
A	Supply and running of 3Rx1.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 20mm dia FRLS PVC conduits for lighting circuits from DB to switch boards & emergency lighting circuits from MCB DBs to SBs and light fixtures.	Mtr	156	Do Not Quote	Do Not Quote	Do Not Quote
B	Supply and running of 2Rx2.5 Sqmm + 1Rx1.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 25mm dia FRLS PVC conduits for Raw power circuits (1x6/16A) from DB to Sockets and looping between the sockets	Mtr	112	Do Not Quote	Do Not Quote	Do Not Quote
C	Supply and running of 2Rx4 Sqmm + 1Rx2.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 25mm dia FRLS PVC conduits for Raw power circuits (3x6/16A) from DB to Sockets and looping between the sockets	Mtr	72	Do Not Quote	Do Not Quote	Do Not Quote
4.0	POINT WIRING: FOR LIGHT FIXTURES					
4.1	POINT WIRING WITH FRLS PVC CONDUITS:					
	(False/Non-False Ceiling Area)					

	Wiring with 2 x 1.5 Sqmm FRLS PVC insulated 1100V grade copper conductor wires and 1 x 1.5 Sqmm PVC insulated earth wire up to first light point and 2 x 1.5 Sqmm FRLS PVC insulated 1100V grade copper conductor wires and 1 x 1.5 Sqmm PVC insulated earth wire for looping with multiple light fixtures in 2mm thick, 20mm dia FRLS PVC conduits as per specification. The rate shall include necessary accessories.					
	(SWITCHES & SOCKETS SHALL BE OF MODULAR TYPE)					
A	Single light point controlled by 6A switch (conduit / wires / switches)	Each	3	Do Not Quote	Do Not Quote	Do Not Quote
B	2/3/4 light point controlled by 6A switch (combined rate for 2/3 points)	Each	3	Do Not Quote	Do Not Quote	Do Not Quote
5.0	LT CABLES WITH END TERMINATIONS					
	Supply, Unloading, Laying, testing & Commissioning of 1.1 KV Grade XLPE insulated & PVC sheathed Aluminium conductor / Copper conductor steel armoured FRLS power cables as per specification. The rates quoted shall be for laying in trays, cable trenches (indoor and outdoor), pipes, etc.					
5.1	1.1kV, Aluminium Conductor, XLPE Insulated, Armoured LT Cable					
A	3.5Cx240 Sq mm for DC Main panels incomings	Mtrs	715	Do Not Quote	Do Not Quote	Do Not Quote
B	4C x 16 Sq mm for PAC units incomings	Mtrs	60	Do Not Quote	Do Not Quote	Do Not Quote
C	1C x 16 Sq mm for PAC Earthing	Mtrs	150	Do Not Quote	Do Not Quote	Do Not Quote
D	4C x 10Sq mm for LPDB incomings	Mtrs	15	Do Not Quote	Do Not Quote	Do Not Quote
E	3C x 10Sq mm for CACDB incomings	Mtrs	12	Do Not Quote	Do Not Quote	Do Not Quote
F	3C x 6Sq mm for CAC units	Mtrs	32	Do Not Quote	Do Not Quote	Do Not Quote

5.2	1.1kV, Copper Conductor, PVC Insulated, Unarmoured, flexible LT Cable					
A	1C X 70 Sqmm for UPS incoming and outgoings	Mtrs	235	Do Not Quote	Do Not Quote	Do Not Quote
B	1C X 10 Sqmm for utility UPSs incomings	Mtrs	135	Do Not Quote	Do Not Quote	Do Not Quote
C	3C X 10 Sqmm for HD Server racks	Mtrs	64	Do Not Quote	Do Not Quote	Do Not Quote
D	1C X 6/10 Sqmm for racks earthing	Mtrs	140	Do Not Quote	Do Not Quote	Do Not Quote
E	3C X 6 Sqmm for Network & LD server racks,utility UPS DB	Mtrs	172	Do Not Quote	Do Not Quote	Do Not Quote
5.3	Supplying and providing the end terminations with copper lugs for all the above cables with Double compression brass cable glands, taping, crimping, gland and armour earthing, etc. complete as required.					
A	3.5Cx240 Sq mm	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
B	4C x 16 Sq mm	Nos	6	Do Not Quote	Do Not Quote	Do Not Quote
C	1C x 16 Sq mm	Nos	6	Do Not Quote	Do Not Quote	Do Not Quote
D	4C x 10Sq mm	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
E	3C x 10Sq mm	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
F	3C x 6Sq mm	Nos	8	Do Not Quote	Do Not Quote	Do Not Quote
5.4	End terminations for 1.1kV, Copper Conductor, PVC Insulated, Unarmoured LT Cable					
A	1C X 70 Sqmm	Nos	40	Do Not Quote	Do Not Quote	Do Not Quote
B	1C X 10 Sqmm	Nos	18	Do Not Quote	Do Not Quote	Do Not Quote
C	3C X 10 Sqmm	Nos	16	Do Not Quote	Do Not Quote	Do Not Quote

D	1C X 6 Sqmm	Nos	28	Do Not Quote	Do Not Quote	Do Not Quote
E	3C X 6 Sqmm	Nos	42	Do Not Quote	Do Not Quote	Do Not Quote
6.0	EARTHING					
	Supply & installation of the following with clamps, inspection chambers, excavation, refill with soil, charcoal, sand and salt, compound as per technical specifications & IS: 3043 standards. Complete. The cost shall include excavation, bacfilling, compaction, construction of chambers, tools and tackles for excavation & all required civil works. Testing earth resistivity and electrode resistance					
6.1	25x3 mm GI Strip	Mtrs	100	Do Not Quote	Do Not Quote	Do Not Quote
6.2	6 SWG CU wires for pedestals	Mtrs	40	Do Not Quote	Do Not Quote	Do Not Quote
6.3	3 mtrs long 50 mm dia. G.I pipe electrode earth station. The chamber size shall be 450x 450 mm with C.I. cover plate. The identification number shall be provided both inside and outside.	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
6.4	600x600x3.15mm Copper plate electrode earth station. The chamber size shall be 450 x450 mm with C.I. cover plate. The identification number shall be provided both inside and outside.	Nos.	2	Do Not Quote	Do Not Quote	Do Not Quote
7.0	SUPPLY & INSTALLATION OF INDOOR LIGHTING FIXTURES					
	Supply, Erection, Testing & Commissioning of the following light fixtures complete with Energy Efficient Electronic Ballast, Control gear and all the other standard accessories. The light fixtures given in this tender are only indicative of the types required. The Electrical Contractor shall submit samples for final selection and approval.					

7.1	INDOOR LIGHT FIXTURES					
A	3 x 14W T5 Recess mounted indirect /direct luminaire, 3x14w T5 lamps, having high efficiency diffuser giving more efficiency with duly wired electronic ballast. The cost shall includes the lamp and all required mounting & required accessories and other accessories. (Make:Philips/Thorns/Wipro or Approved equivalent)	Each	14	Do Not Quote	Do Not Quote	Do Not Quote
B	2x28W surface mounted type decorative mirror optic luminaire with louvers suitable for 2x28W T5 FTL Lamps. The cost shall includes the lamp and all required accessories.	Each	4	Do Not Quote	Do Not Quote	Do Not Quote
8.0	MISCELLANEOUS					
8.1	STEEL ITEMS					
	Supply,fabrication,erection & epoxy painting of steel items as required as per specification complete, Generally steel items include cable tray, cable tray supporting arrangements,MS Channels-(ISMC),Angles,Plates and any other steel items not covered in other items of schedule of quantities. The cable trays shall be of ladder made of angles and flats / sheet steel folded type . The rate shall also include painting with two coats of red oxide and primer and two coats of synthetic enamel paint of approved shade.	M.T.	0.7	Do Not Quote	Do Not Quote	Do Not Quote
8.2	PERFORATED TYPE CABLE TRAYS(GI TRAYS)/ WIREWAYS					

	Supply, erection, testing & commissioning of the following sizes prefabricated perforated type cable tray made of 14 SWG GI sheet with two coats of red oxide primer and finished with good quality paint with necessary supports, brackets, angle iron, suspension are measured separately the heading "Steel Items".					
A	150(W) x 50 (H) x 2mm (T)	Mtr	25	Do Not Quote	Do Not Quote	Do Not Quote
B	300(W) x 50 (H) x 2mm (T)	Mtr	40	Do Not Quote	Do Not Quote	Do Not Quote
8.3	Supply and fixing of the following charts / drawings duly Laminated					
A	Single line diagram & Escalation Matrix	Nos	1	Do Not Quote	Do Not Quote	Do Not Quote
B	Rubber Mating 1M x 1M X 12mm	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
C	First Aid Kit	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – II (ELECTRICAL WORKS)				Do Not Quote		

UPS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Supply of Modular UPS of 60kVA, 3Ph input, 3Ph output, true online double conversion, IGBT based Inverter and IGBT based Rectifier UPS System with 30 minutes maintenance free battery back up. The price shall also include required number of Sealed lead maintenance free VRLA type 12V batteries, Battery breakers, Base frame and supporting structure for UPS systems and complete as required.	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
2	Installation, testing and commissioning of Above mentioned UPS system, Batteries with necessary Cables, Battery breakers, supporting structures etc., necessary as required.	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
2.1	Supply of Utility UPS of 6kVA, 1Ph input, 1Ph output, UPS System with 30 minutes maintenance free battery back up. The price shall also include required number of Sealed lead maintenance free VRLA type 12V batteries, Battery breakers, Base frame and supporting structure for UPS systems and complete as required.	Nos	1	Do Not Quote	Do Not Quote	Do Not Quote
2.2	Installation, testing and commissioning of the above mentioned UPS system with battery banks, battery breakers, racks, inteconnecting cables between battery breakers and UPS and all required accessories.	Nos	1	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – III (UPS RELATED WORKS)				Do Not Quote		

PAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Supply of Precision Air conditioning units Bottom Discharge DX type, Variable Scroll Compressor, Clog Filter Alarm, totally double skin sandwiched panels on all four side, eco-friendly R-410A refrigerant, Backward Curved Electronically Commutated (EC) motor, Hydrophilic coated cooling coil and SS Drain tray. With Electronic Expansion Valve The unit shall be equipped with high efficiency filters(EU4), micro processor based programmable logic controller, humidifier & heater. Each unit shall be provided with RS-485 serial card to communicate with Modbus protocol BMS. 8 Tr Total Capacity and 8 Tr Sensible Capacity considering return air conditions of 24 Deg C 50% RH & Ambient Conditions of 35 Deg C and 50% RH, Bottom Discharge, Variable Scroll PAC Unit including Heater and Humidifier	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
2	Hard Drawn Refrigerant Copper pipe 18 Gauge, with Necessary Clamping arrangement	Rmt	60	Do Not Quote	Do Not Quote	Do Not Quote
3	Electrical Cabling between Indoor to Outdoor Unit 3C x 2.5 Sq.mm Cable	Rmt	60	Do Not Quote	Do Not Quote	Do Not Quote
4	Humidifier Water Piping 25mm GI	Rmt	15	Do Not Quote	Do Not Quote	Do Not Quote
5	Drain Piping - 40 mm GI	Rmt	15	Do Not Quote	Do Not Quote	Do Not Quote
6	Unit Input Power Cabling from Panel to Precision Unit - 4C x 16 Sq.mm	Rmt	15	Do Not Quote	Do Not Quote	Do Not Quote
7	Supply of Power Coated GI Stand for Indoor Unit	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
8	Supply of Powder coated GI stand for mounting Outdoor Unit	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
9	Refrigerant Gas - R410a	Kgs	50	Do Not Quote	Do Not Quote	Do Not Quote
10	Unit to Unit Interconnecting Cable for Sequencing	Rmt	15	Do Not Quote	Do Not Quote	Do Not Quote

PAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	Floor Grilles with VCD - 600 x 600 mm	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
13	Floor Insulation 19 mm thick	Sq.m	60	Do Not Quote	Do Not Quote	Do Not Quote
14	Lifting Shifting and Positioning of Unit at respective floor (Considering Lifting Through Service Lift Arrangement)	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
15	Testing and commissioning	Nos	3	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – IV (PAC & RELATED WORKS)				Do Not Quote		

CAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	3 Tr Hi wall Split AC including low Side works for 3 TR Hi wall split Ac along with Stabilizer and timer.	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
2	2 Tr Hi wall Split AC including low Side works for 1 TR Hi wall split Ac along with Stabilizer and timer.	Nos	2	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – V (CAC & RELATED WORKS)				Do Not Quote		

SERVER RACKS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	42U Rack Frame/800X1000	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
2	Castors Set of 4/Tp3	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
3	Levellers	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
4	Perforated Door/42/600/Convex	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
5	Perforated Door/42/600/Dual	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
6	Side Panels/1000/42U/Vented/With Lock	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
7	Mechanical Lock / Single Point / Common Key	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
8	Mechanical Lock / Three Point / Commom Key	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
9	1Ph, 230V, 32A, Zero U standard rack mount Metred power distribution unit with 20 X C13 & 4 X Indian Round Pin 5/15A , (Inlet Plug Not Installed, Recommended IEC30932A 2P +E), 16A MCB X 2 Circuits - PDU Rating 7.3KVA (Surge and Spike Protection)	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
10	Vertical Cable Organiser/38U/Loop	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
11	Horz. Cable Organiser/1U/Loop	Nos	40	Do Not Quote	Do Not Quote	Do Not Quote
12	Universal Rack Ground Kit-Type 1	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
13	Fan Module/2Fan/Tower Mount/180CFM	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
14	Mounting Hardware-CR (Pack of 20)	Nos	40	Do Not Quote	Do Not Quote	Do Not Quote
15	Shelf/1000	Nos	20	Do Not Quote	Do Not Quote	Do Not Quote
16	Shelf/Key Board/19"Rty/1000	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote

SERVER RACKS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
17	Blank Panel/1U/Pk of 5	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
18	Central Control unit/1U	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
19	Sensor/Temparature	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
20	Sensor/Humidity	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
21	Fan Relay/Temperature Controlled	Nos	10	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – VI (SERVER RACKS RELATED WORKS)					Do Not Quote	

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
A	FIRE ALARM SYSTEM					
	Supply, Installation, Testing and Commissioning of the following:					
1	Addressable fire alarm control panel with 1 loop card and battery backup of 24 hrs in normal condition and 30 min in alarm condition with necessary accessories & BMS integration	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
2	Addressable Multisensor type Photo-thermal smoke detector with mounting based LED, Address Switch to program the detectors with accessories	Nos.	16	Do Not Quote	Do Not Quote	Do Not Quote
3	Response Indicator with accessories	Nos.	8	Do Not Quote	Do Not Quote	Do Not Quote
4	Addressable Fault Isolators module with accessories .	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
5	Addressable Control relay modules. (for GRP, ACS, Hooters, PAC, PAS) with accessories	Nos.	10	Do Not Quote	Do Not Quote	Do Not Quote
6	Addressable Manual Call Points with accessories	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
7	Addressable monitor modules with accessories (monitoring VESDA, WLD & GRP)	Nos.	5	Do Not Quote	Do Not Quote	Do Not Quote
8	Sounders with strobes with accessories .	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
9	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	350	Do Not Quote	Do Not Quote	Do Not Quote
10	20 mm MS conduit of 2 mm thickness complete with all joints, elbows, fixing accessories etc. as required.	Mtrs.	50	Do Not Quote	Do Not Quote	Do Not Quote

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
B	FIRE SUPPRESSION SYSTEM					
1	80 Ltr seamless cylinder with valve	No.	2	Do Not Quote	Do Not Quote	Do Not Quote
2	NOVEC 1230 Agent	Kgs.	125	Do Not Quote	Do Not Quote	Do Not Quote
3	Master Cylinder Kit with following items:	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
	- Pr. Guage + Low Pr. Supervisory Switch					
	- Electromagnetic Actuator					
	- Manual Actuator					
	- Pneumatic Actuator					
	- Flexible Discharge Hose					
	- Flexible Actuation Hose					
4	Slave Cylinder Comprising Below Items:	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
	- Pr. Guage + Low Pr. Supervisory Switch					
	- Pneumatic Actuator					
	- Flexible Discharge Hose					
	- Flexible Actuation Hose					
5	UL Listed Gas Discharge Nozzles	Nos.	3	Do Not Quote	Do Not Quote	Do Not Quote
6	Seamless Piping with manifold	Lot.	1	Do Not Quote	Do Not Quote	Do Not Quote
7	Gas Release Panel with accessories	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
8	Abort Switch	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
9	Release Switch	No.	1	Do Not Quote	Do Not Quote	Do Not Quote

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
10	Hooter with Power Supply	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
11	ABC Stored pressure type Fire Extinguisher 4 Kgs Capacity Mono Ammonium Phosphate based Dry Chemical Powder as per IS 14609 with ISI Mark for Fighting ABC Class of Fire.	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
12	Siganges for fire extinguishers (250x200mm)	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
C	ACCESS CONTROL SYSTEM					
1	TCP/IP based 2 Reader Access Door Controller with Power supply and housing	Nos.	5	Do Not Quote	Do Not Quote	Do Not Quote
2	Finger print biometric reader with smart card reader with accessories	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
3	Smart Card reader with accessories	Nos.	8	Do Not Quote	Do Not Quote	Do Not Quote
4	Smart Cards	Nos.	50	Do Not Quote	Do Not Quote	Do Not Quote
5	Dual leaf 600 lbs electromagnetic lock with inbuilt magnetic contact & Power Supply	Nos.	2	Do Not Quote	Do Not Quote	Do Not Quote
6	Single leaf 600 lbs electromagnetic lock with inbuilt magnetic contact & Power Supply	Nos.	6	Do Not Quote	Do Not Quote	Do Not Quote
7	Emergency break glass unit with accessories	Nos.	3	Do Not Quote	Do Not Quote	Do Not Quote
8	Exit Push Button with accessories	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
9	Access Control with Time & Attendance Software	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
10	PC for Access Control Software (BMS Software will also be loaded on the same machine)	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	8 core x 0.75 sq.mm. shielded armoured cable with accessories	Mtrs.	150	Do Not Quote	Do Not Quote	Do Not Quote
12	4 core x 0.75 sq.mm.shielded armoured cable with accessories	Mtrs.	150	Do Not Quote	Do Not Quote	Do Not Quote
D	CCTV					
1	1/3" CMOS, 6mm fixed lens, 800x600 Resolution, POE IP indoor IP camera with accessories as per specifications	Nos	8	Do Not Quote	Do Not Quote	Do Not Quote
2	Network Video Recorder with VMS Software & HDD capcity for recordig 4CIF resolution, 25fps, 30days.	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
3	Workstation with 32" monitor to view cameras	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
E	WATER LEAK DETECTION SYSTEM					
1	4 Zone Water Leak Detection Panel with Modbus connectivity	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
2	Water Leak detection Cable Sensor – 20 mtrs	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
3	Electronic Hooter	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
4	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	35	Do Not Quote	Do Not Quote	Do Not Quote
F	PUBLIC ADDRESS SYSTEM					
1	6W RMS ceiling mount Speakers	Nos.	6	Do Not Quote	Do Not Quote	Do Not Quote
2	6 zone selection system controller along with	No.	1	Do Not Quote	Do Not Quote	Do Not Quote

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	microphones					
3	1 CD / DVD Player	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
4	12W Volume Controller Unit	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
5	Suitable U Rack for housing 1 no. Amplifier, 1 no. main Console, CD Player.	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
G	RODENT REPELLENT SYSTEM					
1	Microprocessor based Ultrasonic Rodent Repellent System with stands	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
2	Rodent Transducer	Nos.	14	Do Not Quote	Do Not Quote	Do Not Quote
3	Rodent Wire (Connecting Cable) in PVC Conduit	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
4	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	35	Do Not Quote	Do Not Quote	Do Not Quote
H	ASPIRATION SYSTEM					
1	Aspiration Detector for Server Room (55 Sq.m.)	Nos.	1	Do Not Quote	Do Not Quote	Do Not Quote
2	Power Supply Unit with battery backup	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
3	Air Termination nozzles & Capillary tubes	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
4	Piping for Aspiration System	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
I	BMS					
	Supply, Installation, Testing and Commissioning of					

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	UL listed Necessary Software Packages containing Enterprise Building Management & Control Software Programmes with Dynamic Graphics interfaces. Buildings Integrator platform shall have single-window control over all building operations, and all the relevant data which need to maximize building performance. In addition, Building Manager captures current and historical data for advanced analysis and reporting and will install, customize, and maintain Building Manager to all requirements to create the ideal solution for a wide range of operations.	No.	1	Do Not Quote	Do Not Quote	Do Not Quote
2	DDC Controller with necessary Housing Panels (For DC Monitoring Parameters as per IO Summary enclosed) (AI-6, DI-0, AO-0, DO-0) Temperature & Humidity Monitoring - 6 Nos. (AI)	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
3	Room Temperature + RH Sensor (Wall Mounted - Server Room:3)	Nos.	4	Do Not Quote	Do Not Quote	Do Not Quote
4	Integration	Lot	1	Do Not Quote	Do Not Quote	Do Not Quote
	Integrator with necessary Housing Panels which will sit on LAN directly / Network interface unit					
	PAC Units - 3 Nos. (20 Points / Unit on MODBUS)					
	UPS Units - 4 Nos. (20 Points / Unit on MODBUS)					

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	Multifunction Meters - 6 Nos. (20 Points / Unit on MODBUS)					
	Water Leak Detection System (Modbus/ BACNet)					
	Fire Alarm System (BACNet / Modbus)					
	Access Control System (MODBUS / SDK)					
	CCTV System (MODBUS / BACNET / SDK)					
5	Signal Cable (2 Core 1 Sq.mm FRLS Armoured, Un-Screened)	Mtrs	50	Do Not Quote	Do Not Quote	Do Not Quote
6	Communication Cable (2 Core 1.5 Sq.mm FRLS Armoured, Screened) - For 3rd Party Integration	Mtrs	250	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – VII (IBMS WORKS)						

DATA SAFE RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	300 ltr Data safe for 1 hr fire rated	Nos	1	Do Not Quote	Do Not Quote	Do Not Quote
TOTAL – VIII (DATA SAFE RELATED WORKS)						Do Not Quote

		Unit Rate (In Figures) (Rs.)	Unit Rate (In Words) (Rs.)
SP02	[SP02] TOTAL FOR DATA CENTER: TOTAL I + TOTAL II + TOTAL III + TOTAL IV + TOTAL V + TOTAL VI + TOTAL VII + TOTAL VIII INCLUSIVE OF ALL TAXES & DUTIES AND EXCLUSIVE OF SERVICE TAX.	Do Not Quote	Do Not Quote
[B]	BIDDER TO QUOTE PERCENTAGE (%) OF TOTAL BASIC ORDER VALUE ON WHICH SERVICE TAX IS APPLICABLE (40%/ 60% / 70%/ 75%/ 100%)	Do Not Quote	Do Not Quote
SPST02	AMOUNT OF SERVICE TAX APPLICABLE(PLEASE QUOTE NUMERICAL ONLY)	Do Not Quote	Do Not Quote
CvtST02	AMOUNT OF CENVAT BENEFIT ON SERVICE TAX APPLICABLE(PLEASE QUOTE NUMERICAL ONLY)	Do Not Quote	Do Not Quote

VAT on works contract / WCT shall be included in the quoted price and no variation shall be payable on VAT on works contract / WCT.

Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified in the Bid document.

Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)

SL. NO.		Item Description	UOM	Qty (A)	Unit Rate (In figures) (Rs.)	Unit rate (In Words) (Rs.)	Amount (Rs.)
PART F	F.1	Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified in the Bid document.	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
PART G	G.1	Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)	LS	1	Do Not Quote	Do Not Quote	Do Not Quote
SP03	TOTAL AMOUNT : PART F + PART G				Do Not Quote		
SPST03	Applicable Service Tax @ ____% (Service Tax on PART F + PART G) including EDU, CESS & HIGHER EDU CESS)				Do Not Quote		

SOR For AMC

SL. NO.		Item Description	UOM	Qty (A)	Unit Rate (In Figures) (Rs.)	Unit rate (In Words)	Total Amount (Rs.)
PART H	H.1	System Support Services & Facility Management	Quarter	12	Do Not Quote	Do Not Quote	Do Not Quote
SP04	TOTAL AMOUNT				Do Not Quote		
SPST04	Applicable Service Tax @ ____% (Service Tax on PART H) including EDU, CESS & HIGHER EDU CESS)				Do Not Quote		

PART –B

SCHEDULE OF RATES
[PRICED BID]

TOTAL QUOTED AMOUNT FOR EVALUATION OF THE TENDER

Sl. No.	Item Description	(Rs.) (In figures)	(Rs.) (In Words)
SP01	PART A		
	PART B		
	PART C		
	PART D		
SP02	PART E		
SP03	PART F		
	PART G		
SP04	PART H		
SP00	TOTAL QUOTED AMOUNT (PART A + PART B + PART C + PART D + PART E + PART F + PART G + PART H) (RS.) (Inclusive of all taxes except Service tax)		
SPST02	Applicable Service Tax on SP -02 including EDU CESS & HIGHER EDU CESS SPST02 (_____)		
CvtST02 + CvtED (Amount of cenvat benefit considered for evaluation)			
GRAND TOTAL [SP00 + SPST02 - (CvtST02 + CvtED)]			

SL. NO.	Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
PART A	A.1	Routers	Primary Site	No.	4						
			DR Site	No.	4						
	A.2	Link Aggregators / Load-Balancers	Primary Site	No.	2						
			DR Site	No.	2						
	A.3	External Firewall with IPS	Primary Site	No.	2						
			DR Site	No.	2						
	A.4	Internal Firewall with IPS	Primary Site	No.	2						
			DR Site	No.	2						
	A.5	L3 Switch	Primary Site	No.	4						
			DR Site	No.	4						
	A.6	Edge Switch	Primary Site	No	3						
			DR Site	No.	3						
	A.7	Reverse Proxy	Primary Site	No.	2						
			DR Site	No.	2						

SL. NO.		Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
	A.8	VPN Appliance	Primary Site	No.	2							
			DR Site	No.	2							
	A.9	AAA Appliance	Primary Site	No.	2							
			DR Site	No.	2							
		TOTAL AMOUNT : PART - A										
PART B	B.1	Virtualization Servers	Primary Site	No.	3							
			DR Site	No.	3							
	B.2	Standalone Servers	Primary Site	No.	6							
			DR Site	No.	6							
	B.3	SAN Storage	Primary Site	No.	1							
			DR Site	No.	1							
	B.4	SAN Switch	Primary Site	No.	2							
			DR Site	No.	2							
	B.5	Tape Library	Primary Site	No.	1							
			DR Site	No.	1							

SL. NO.		Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
	B.6	External LTO 6 Tape Drive	Primary Site	No.	2							
			DR Site	No.	2							
	B.7	LTO 6 Tape Media	Primary Site	No.	50							
			DR Site	No.	50							
	B.8	Cleaning Cartridge for Tape library and drives	Primary Site	No.	5							
			DR Site	No.	5							
	B.9	Virtualization Software	Primary Site	LS	1							
	B.10	Operating System for SAP	Primary Site	LS	1							
	B.11	Backup & Replication solution	Primary Site	LS	1							
	TOTAL AMOUNT : PART - B											
PART C	C.1	Windows Server 2012 User CAL OLP	Primary Site	No.	650							
	C.2	MS Exchange Server 2013 Standard User CAL OLP	Primary Site	No.	650							
	C.3	MS Exchange Server 2013 Standard OLP	Primary Site	LS	1							

SL. NO.		Item Description	Location	UO M	Qty	Unit Rate (A)	P&F (B)	Excise Duty (Rs.) (C)	VAT / CST (Rs.) (D)	Freight (Rs) (E)	Rate (Inclusive of all taxes & duties, Freight, etc) (Rs.)	Amount (Qty x Rate) (Rs.)
	C.4	Digital Server Certificate and any other software for Exchange and Intranet setup	Primary Site	LS	1							
	C.5	Database for non-SAP applications	Primary Site	LS	1							
	TOTAL AMOUNT : PART - C											
PART D	D.1	E-Mail Gateway	Primary Site	No.	2							
			DR Site	No.	2							
	D.2	Web Gateway with Content-filtering	Primary Site	No.	2							
			DR Site	No.	2							
	D.3	Enterprise AV	Primary Site	No.	500							
	TOTAL AMOUNT : PART - D											
SP01	TOTAL QUOTED AMOUNT (PART A + PART B + PART C + PART D) (RS.) (Inclusive of all taxes and duties)											
	Percentage of Cenvatable Excise Duty benefit Passed onto BCPL					%						
CvtED	Amount of Cenvatable Excise Duty (In Rupees)											

SOR FOR DATA CENTER**CIVIL & INTERIOR WORKS**

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Providing and fixing of Access floor systems with a maximum finished floor height of 600 mm from the existing floor level in the Server room. The raised floor shall be provided with Raised Access Flooring system with access floor panel of size (600 x 600) mm . Refer the details as in technical specification.	SqM	60			
2	Providing and Laying false ceiling shall be provided with Armstrong Lay in (Hot dipped galvanized steel) metal ceiling system 600 x 600 x 5mm with standard perforation of 2.5 mm dia (16% open space) and fleece with NRC of 70 & CAC 36 to be laid on Armstrong grid system. Armstrong Orcal Lay in metal ceiling System consisting of 600x600mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5mm dia & open area of 16%. The back of the tile should have black acoustical fleece with NRC of 0.70 & CAC 36 to be laid on Armstrong grid systems with 15mm wide T - section flanges Colour white having rotary stitching on the Main Runner, 1200 mm & 600 mm Cross Tees, fixed to the structural soffit by Butterfly clip hangers, suspension wires & anchor fasteners as per the manufacturer's specification. Suspension wires to be provided at every 600mm c/c with two nos of ties on each anchor fastener, Perimeter trim of Trulok wall angle in white colour secured to wall at 450mm maximum centers.	SqM	60			

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
3	Providing and laying insulation material. The floor and ceiling slabs should be heat-insulated with a heat insulating material to avoid condensation on floors below and above and to reduce the heat transfer in the server/network room area. The insulation shall be done with 13 mm thick self-adhesive aluminum foil face nytrial rubber. The floor and ceiling shall be coated with epoxy paint.	SqM	130			
4	Providing and laying false ceiling of mineral fiber Board (600 x 600 x 15mm) of Armstrong (ELIT RH99) of Equipment. Laid on Grid system (Micro lock edge) with 15mm thick T section(White) having main runner 1200mm x 600mm, cross Tee at 295 HT. Mineral Fibre Board moduler False Ceiling in Armstrong in Board edge Fissured ANF tiles of size 600mX600mmX15mm having light reflection over 75%, Relative Humidity 99%, fire performance class0/class1 (BS 476) 24XL - Hot Dipped Galvanized Steel Suspension System having rotary stitching on main runner, 1200 mm & 600 mm cross tees with 15mm wide flanges of white colour with standard perforation of 2.5mm dia. (16% open space) fleece with NRC of 0.70 & CAC 36, fixed to the structural soffit by Butterfly clip hangers, suspension wires & anchor fasteners as per the manufacturer's specification, Suspension wires to be provided at every 600mm c/c with two nos of ties on each anchor fastener, Perimeter trim of Trulok wall angle in white colour secured to wall at 450mm maximum centers	SqM	60			

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
5a	Providing and fixing full height 125 mm thick fire line Gyp Board using 125 mm thick double fire line gyp-board on both sides with GI sheet metal vertical stud frame of size 75 mm thick fixed in the floor and ceiling channels of 75 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing shall be made by self tapping screw width vertical studs being at 610 mm intervals. The same should be inclusive of making cut-out for switchboards, sockets, grills etc. It shall also include preparing the surface smoothly and finally finishing with one coat of approved brand of resistant coating.	SqM	200			
5b	Providing and fixing the glass partitionare to be of preferred manufacturer complying with IS 1548-1966 as per approved quality and sample to be of the selective qualities specified and free from bubbles, smoke, wanes, waviness, air holes and any other defects	SqM	11			
6	Providing and applying the fire rated paint of approved quality & shade, by sand papering the surface, applying one coat of primer, prepare the surface with two coats of full putty, sand papering again, repeating a coat of primer, applying one coat of paint, touching up with putty & applying two final roller coats of fire rated paint, to internal walls of the server room and to the exposed ceiling surface in the critical area.	SqM	400			

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
7	Providing and laying 20mm thick vitrified tiles 600 x 600 size conforming to IS:15622: 2006 to be fixed with special adhesive of Dr. Fixit Fevimate X-L or equivalent in areas other than false flooring areas mentioned in the drawing such as Lounge, Corridors, Manager Room & Engineering Room. All areas should have 6" skirting. Cable trenching arrangement shall be made as per drawing	SqM	60			
8	Providing and fixing of 2 mm thick anti-static vinyl flooring over the prepared surface. It shall be fixed by applying the appropriate cement paste to fix the vinyl flooring over the base floor slab.	SqM	35			
9	Supplying and fixing fire rated Double leaf metal doors of size 1500X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	2			
10	Supplying and fixing fire rated single leaf metal doors of size 1200X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	2			

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	Supplying and fixing the glass door of size 900 X 2100mm in the Workstation room should be double glass panel with one glass should be with 2 hr fire rated wired mesh glass with min 5 mm thickness and other glass 6 mm thick toughen type. Glass should be properly fixed in the Aluminium frame work with the size of 90 x 50 x 2 (304 Grade).	No.s	3			
12	Supplying and fixing Emergency door for fire rated single leaf metal doors of size 1200X2100mm with 2 hour Metal fire rating, along with the required framework, Vision Panel, handle, locking system, top patch and bottom patch, hardware, etc as per the manufacturer's specifications etc. complete.	No.s	1			
13	Providing and laying Work Table of size 1200 mm x 750 mm including in-built arrangement of drawers, cupboard, computer keyboard tray, C.P.U. rack with provision for raceway below the worktop for carrying wires and switches including all as per specification and as approved by Engineer in-charge and as per catalogue of preferred make	No.s	8			
14	Providing and fixing Long back hydraulic gas lift chair for workstations with comfortable arms rest of size 650 mm (L) x 650 mm (D). The height of the chair should be adjustable from 1190 mm to 1300 mm with seat height adjustable from 420 mm to 540 mm. The long back chairs should have aesthetically pleasing and ergonomic design with revolving mechanism	No.s	8			

CIVIL & INTERIOR WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
15	Providing & fixing METAL ramp with 10 to 25 degree inclination with necessary hard wood/metal framework with hard wood/metal deck detachable type & fixed with vertical surface of false floor..	LS	1			
16	Providing & fixing glow signage on both sides of the door shutters marking PUSH / PULL along with other signage marking different work areas and emergency signs.	No.s	5			
17	Providing and laying in position cement concrete of specified grade including the cost of Reinforcement, centering and shuttering - All work up to plinth level : 1:1½:3 (1 Cement: 1½ coarse sand: 3 graded stone aggregate 20 mm nominal size)	CuM	20			
18	Trench work for 350 mtr	LS	1			
19	Gypsum ceiling with all necessary support for server room only	LS	1			
20	Pest control	LS	1			
21	Water proofing paint insider the server room	LS	1			
TOTAL – I (CIVIL & INTERIOR WORKS)						

ELECTRICAL WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	INTERNAL ELECTRICAL WORKS					
	Supply, installation, testing & commissioning of the following as per technical specifications & relevant drawings and standards.					
1.0	LT PANELS & FACTORY-BUILT MCB DISTRIBUTION BOARDS:					
1.1	LT PANELS:					
	Supply, installation, testing and commissioning of 415v, 50HZ, LT Switchboard as per specifications, schematic drawings and SLD.					
1.1.1	Data Center Main Panel-As per SLD	Each	1			
	incomings:					
	2no. Of 320A, 4P,MCCB					
	320A,415V,50Hz, aluminium bus bar					
	Mechanical interlocking arrangement between incomers					
	1no. Transient Voltage Surge Suppressor(TVSS)					
	Outgoings:					
	3no. Of 63A,TPN,MCB for PAC units					
	1nos. Of 40A,TPN,MCB for LPDB incoming					
	1nos. Of 40A,DP,MCB for CACDB incoming					

	2nos. Of 125A,TP+2N,MCCB for UPS units incomings					
	2nos. Of 32A,DP,MCB for utility UPS units					
	1nos. Of 125A TPN MCCB for spare					
1.1.2	Power Distribution Units(PDUs)-As per SLD	Each	2			
	incomings:					
	1nos. Of 125A, TP+2N,MCCB					
	125A,TP+2N+E,415V,50Hz, copper bus bar					
	With Transient Voltage Surge Suppressor(TVSS)					
	Outgoings:					
	14nos. Of 32A DP MCB,10kA/Sec. for HD & LD Server racks &Network racks					
	2nos. Of 32A DP MCB,10kA/Sec. for spare					
1.1.3	LPDB (4 way TPN DB)-As per attached drawing(1 x 40A TPN MCB as incomer and 12Nos.of 10A/16A SP MCB as outgoing)	Each	1			
1.1.4	CACDB (8 way SPN DB)-As per attached drawing(1 x 40A DP MCB as incomer and 6Nos.of 10A SP MCB as outgoing)	Each	1			
1.1.5	Utility UPS DB (12 way SPN DB)-As per attached drawing(1 x 32A DP MCB as incomer and 10Nos.of 10A/16A SP MCB as outgoing)	Each	1			
1.1.6	32A DP MCBs near to CAC units for controlling the units	Each	4			
2.0	INDUSTRIAL TYPE SOCKETS AND PLUG TOPS					

2.1	Supply, installation, testing and commissioning of factory made metal clad totally enclosed with cast aluminium housing with industrial socket and socket with scrapping earth connection and plug top. In case of interlocked socket, the interlocking should ensure that the plug cannot be inserted or withdrawn while the switch is in 'ON' position. (all switches & sockets shall be housed in painted MS boxes). The erection rate shall include supply of angle iron frame work and fixing accessories such as grip bolts/grouting/ welding to steel structures etc.,					
A	32A, 230V, 2P+E, IP 44 Male top with socket, Plastic moulded industrial socket with suitable straight plug, Surface mounted / Raceway mounted type. The pricing shall include to make the required supports on the floor/Raceway along with required accessories.	Each	28			
2.2	MODULAR TYPE					
	Supply, erection, testing and commissioning of power points by providing following switches/sockets mounted on suitable size metal coated boxes fixed flush/surface on to the wall with all fixing and wiring accessories.					
A	6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.	Each	6			
B	6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.(UPS Power Sockets for Safety & security purpose)	Each	8			

C	3 X 6/16 Amps, 5-pin (230 Volts) single phase universal socket with 16 Amps single pole switch with indicating lamp.The pin configuration shall be round type. Plug tops are excluded from the scope of supply.(UPS Power)	Each	9			
3.0	SUB-MAINS/CIRCUIT MAINS/POWER WIRING					
3.1	Supply and running of 1100 V grade FRLS PVC insulated copper conductor wires in 2mm thick FRLS PVC/ MS conduits as per Technical specification. The rate shall include all wiring & conduit accessories as applicable.					
A	Supply and running of 3Rx1.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 20mm dia FRLS PVC conduits for lighting circuits from DB to switch boards & emergency lighting circuits from MCB DBs to SBs and light fixtures.	Mtr	156			
B	Supply and running of 2Rx2.5 Sqmm + 1Rx1.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 25mm dia FRLS PVC conduits for Raw power circuits (1x6/16A) from DB to Sockets and looping between the sockets	Mtr	112			
C	Supply and running of 2Rx4 Sqmm + 1Rx2.5 Sqmm FRLS PVC insulated multistrand copper conductor wire in 25mm dia FRLS PVC conduits for Raw power circuits (3x6/16A) from DB to Sockets and looping between the sockets	Mtr	72			
4.0	POINT WIRING: FOR LIGHT FIXTURES					
4.1	POINT WIRING WITH FRLS PVC CONDUITS:					
	(False/Non-False Ceiling Area)					

	Wiring with 2 x 1.5 Sqmm FRLS PVC insulated 1100V grade copper conductor wires and 1 x 1.5 Sqmm PVC insulated earth wire up to first light point and 2 x 1.5 Sqmm FRLS PVC insulated 1100V grade copper conductor wires and 1 x 1.5 Sqmm PVC insulated earth wire for looping with multiple light fixtures in 2mm thick, 20mm dia FRLS PVC conduits as per specification. The rate shall include necessary accessories.					
	(SWITCHES & SOCKETS SHALL BE OF MODULAR TYPE)					
A	Single light point controlled by 6A switch (conduit / wires / switches)	Each	3			
B	2/3/4 light point controlled by 6A switch (combined rate for 2/3 points)	Each	3			
5.0	LT CABLES WITH END TERMINATIONS					
	Supply, Unloading, Laying, testing & Commissioning of 1.1 KV Grade XLPE insulated & PVC sheathed Aluminium conductor / Copper conductor steel armoured FRLS power cables as per specification. The rates quoted shall be for laying in trays, cable trenches (indoor and outdoor), pipes, etc.					
5.1	1.1kV, Aluminium Conductor, XLPE Insulated, Armoured LT Cable					
A	3.5Cx240 Sq mm for DC Main panels incomings	Mtrs	715			
B	4C x 16 Sq mm for PAC units incomings	Mtrs	60			
C	1C x 16 Sq mm for PAC Earthing	Mtrs	150			
D	4C x 10Sq mm for LPDB incomings	Mtrs	15			
E	3C x 10Sq mm for CACDB incomings	Mtrs	12			
F	3C x 6Sq mm for CAC units	Mtrs	32			

5.2	1.1kV, Copper Conductor, PVC Insulated, Unarmoured, flexible LT Cable					
A	1C X 70 Sqmm for UPS incoming and outgoings	Mtrs	235			
B	1C X 10 Sqmm for utility UPSs incomings	Mtrs	135			
C	3C X 10 Sqmm for HD Server racks	Mtrs	64			
D	1C X 6/10 Sqmm for racks earthing	Mtrs	140			
E	3C X 6 Sqmm for Network & LD server racks,utility UPS DB	Mtrs	172			
5.3	Supplying and providing the end terminations with copper lugs for all the above cables with Double compression brass cable glands, taping, crimping, gland and armour earthing, etc. complete as required.					
A	3.5Cx240 Sq mm	Nos	10			
B	4C x 16 Sq mm	Nos	6			
C	1C x 16 Sq mm	Nos	6			
D	4C x 10Sq mm	Nos	2			
E	3C x 10Sq mm	Nos	2			
F	3C x 6Sq mm	Nos	8			
5.4	End terminations for 1.1kV, Copper Conductor, PVC Insulated, Unarmoured LT Cable					
A	1C X 70 Sqmm	Nos	40			
B	1C X 10 Sqmm	Nos	18			
C	3C X 10 Sqmm	Nos	16			

D	1C X 6 Sqmm	Nos	28			
E	3C X 6 Sqmm	Nos	42			
6.0	EARTHING					
	Supply & installation of the following with clamps, inspection chambers, excavation, refill with soil, charcoal, sand and salt, compound as per technical specifications & IS: 3043 standards. Complete. The cost shall include excavation, bacfilling, compaction, construction of chambers, tools and tackles for excavation & all required civil works. Testing earth resistivity and electrode resistance					
6.1	25x3 mm GI Strip	Mtrs	100			
6.2	6 SWG CU wires for pedestals	Mtrs	40			
6.3	3 mtrs long 50 mm dia. G.I pipe electrode earth station. The chamber size shall be 450x 450 mm with C.I. cover plate. The identification number shall be provided both inside and outside.	Nos.	1			
6.4	600x600x3.15mm Copper plate electrode earth station. The chamber size shall be 450 x450 mm with C.I. cover plate. The identification number shall be provided both inside and outside.	Nos.	2			
7.0	SUPPLY & INSTALLATION OF INDOOR LIGHTING FIXTURES					
	Supply, Erection, Testing & Commissioning of the following light fixtures complete with Energy Efficient Electronic Ballast, Control gear and all the other standard accessories. The light fixtures given in this tender are only indicative of the types required. The Electrical Contractor shall submit samples for final selection and approval.					

7.1	INDOOR LIGHT FIXTURES					
A	3 x 14W T5 Recess mounted indirect /direct luminaire, 3x14w T5 lamps, having high efficiency diffuser giving more efficiency with duly wired electronic ballast. The cost shall includes the lamp and all required mounting & required accessories and other accessories. (Make:Philips/Thorns/Wipro or Approved equivalent)	Each	14			
B	2x28W surface mounted type decorative mirror optic luminaire with louvers suitable for 2x28W T5 FTL Lamps. The cost shall includes the lamp and all required accessories.	Each	4			
8.0	MISCELLANEOUS					
8.1	STEEL ITEMS					
	Supply,fabrication,erection & epoxy painting of steel items as required as per specification complete, Generally steel items include cable tray, cable tray supporting arrangements,MS Channels-(ISMC),Angles,Plates and any other steel items not covered in other items of schedule of quantities. The cable trays shall be of ladder made of angles and flats / sheet steel folded type . The rate shall also include painting with two coats of red oxide and primer and two coats of synthetic enamel paint of approved shade.	M.T.	0.7			
8.2	PERFORATED TYPE CABLE TRAYS(GI TRAYS)/ WIREWAYS					

	Supply, erection, testing & commissioning of the following sizes prefabricated perforated type cable tray made of 14 SWG GI sheet with two coats of red oxide primer and finished with good quality paint with necessary supports, brackets, angle iron, suspension are measured separately the heading "Steel Items".					
A	150(W) x 50 (H) x 2mm (T)	Mtr	25			
B	300(W) x 50 (H) x 2mm (T)	Mtr	40			
8.3	Supply and fixing of the following charts / drawings duly Laminated					
A	Single line diagram & Escalation Matrix	Nos	1			
B	Rubber Mating 1M x 1M X 12mm	Nos	3			
C	First Aid Kit	Nos.	1			
TOTAL – II (ELECTRICAL WORKS)						

UPS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Supply of Modular UPS of 60kVA, 3Ph input, 3Ph output, true online double conversion, IGBT based Inverter and IGBT based Rectifier UPS System with 30 minutes maintenance free battery back up. The price shall also include required number of Sealed lead maintenance free VRLA type 12V batteries, Battery breakers, Base frame and supporting structure for UPS systems and complete as required.	Nos	2			
2	Installation, testing and commissioning of Above mentioned UPS system, Batteries with necessary Cables, Battery breakers, supporting structures etc., necessary as required.	Nos	2			
2.1	Supply of Utility UPS of 6kVA, 1Ph input, 1Ph output, UPS System with 30 minutes maintenance free battery back up. The price shall also include required number of Sealed lead maintenance free VRLA type 12V batteries, Battery breakers, Base frame and supporting structure for UPS systems and complete as required.	Nos	1			
2.2	Installation, testing and commissioning of the above mentioned UPS system with battery banks, battery breakers, racks, inteconnecting cables between battery breakers and UPS and all required accessories.	Nos	1			
TOTAL – III (UPS RELATED WORKS)						

PAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	Supply of Precision Air conditioning units Bottom Discharge DX type, Variable Scroll Compressor, Clog Filter Alarm, totally double skin sandwitched panels on all four side, eco-friendly R-410A refrigerant, Backward Curved Electronically Commutated (EC) motor, Hydrophilic coated cooling coil and SS Drain tray. With Electronic Expansion Valve The unit shall be equipped with high efficiency filters(EU4), micro processor based programmable logic controller, humidifier & heater. Each unit shall be provided with RS-485 serial card to communicate with Modbus protocol BMS. 8 Tr Total Capacity and 8 Tr Sensible Capacity considering return air conditions of 24 Deg C 50% RH & Ambient Conditions of 35 Deg C and 50% RH, Botttom Discharge, Variable Scroll PAC Unit including Heater and Humidifier	Nos	3			
2	Hard Drawn Refrigerant Copper pipe 18 Gauge, with Necessary Clamping arrangement	Rmt	60			
3	Electrical Cabling between Indoor to Outdoor Unit 3C x 2.5 Sq.mm Cable	Rmt	60			
4	Humidifier Water Piping 25mm GI	Rmt	15			
5	Drain Piping - 40 mm GI	Rmt	15			
6	Unit Input Power Cabling from Panel to Precision Unit - 4C x 16 Sq.mm	Rmt	15			
7	Supply of Power Coated GI Stand for Indoor Unit	Nos	3			
8	Supply of Powder coated GI stand for mounting Outdoor Unit	Nos	3			
9	Refrigerant Gas - R410a	Kgs	50			
10	Unit to Unit Interconnecting Cable for Sequencing	Rmt	15			

PAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	Floor Grilles with VCD - 600 x 600 mm	Nos	10			
13	Floor Insulation 19 mm thick	Sq.m	60			
14	Lifting Shifting and Positioning of Unit at respective floor (Considering Lifting Through Service Lift Arrangement)	Nos	3			
15	Testing and commissioning	Nos	3			
TOTAL – IV (PAC & RELATED WORKS)						

CAC & RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	3 Tr Hi wall Split AC including low Side works for 3 TR Hi wall split Ac along with Stabilizer and timer.	Nos	2			
2	2 Tr Hi wall Split AC including low Side works for 1 TR Hi wall split Ac along with Stabilizer and timer.	Nos	2			
TOTAL – V (CAC & RELATED WORKS)						

SERVER RACKS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	42U Rack Frame/800X1000	Nos	10			
2	Castors Set of 4/Tp3	Nos	10			
3	Levellers	Nos	10			
4	Perforated Door/42/600/Convex	Nos	10			
5	Perforated Door/42/600/Dual	Nos	10			
6	Side Panels/1000/42U/Vented/With Lock	Nos	20			
7	Mechanical Lock / Single Point / Common Key	Nos	10			
8	Mechanical Lock / Three Point / Commom Key	Nos	10			
9	1Ph, 230V, 32A, Zero U standard rack mount Metred power distribution unit with 20 X C13 & 4 X Indian Round Pin 5/15A , (Inlet Plug Not Installed, Recommended IEC30932A 2P +E), 16A MCB X 2 Circuits - PDU Rating 7.3KVA (Surge and Spike Protection)	Nos	20			
10	Vertical Cable Organiser/38U/Loop	Nos	20			
11	Horz. Cable Organiser/1U/Loop	Nos	40			
12	Universal Rack Ground Kit-Type 1	Nos	20			
13	Fan Module/2Fan/Tower Mount/180CFM	Nos	20			
14	Mounting Hardware-CR (Pack of 20)	Nos	40			
15	Shelf/1000	Nos	20			
16	Shelf/Key Board/19"Rty/1000	Nos	10			

SERVER RACKS RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
17	Blank Panel/1U/Pk of 5	Nos	10			
18	Central Control unit/1U	Nos	10			
19	Sensor/Temparature	Nos	10			
20	Sensor/Humidity	Nos	10			
21	Fan Relay/Temperature Controlled	Nos	10			
TOTAL – VI (SERVER RACKS RELATED WORKS)						

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
A	FIRE ALARM SYSTEM					
	Supply, Installation, Testing and Commissioning of the following:					
1	Addressable fire alarm control panel with 1 loop card and battery backup of 24 hrs in normal condition and 30 min in alarm condition with necessary accessories & BMS integration	No.	1			
2	Addressable Multisensor type Photo-thermal smoke detector with mounting based LED, Address Switch to program the detectors with accessories	Nos.	16			
3	Response Indicator with accessories	Nos.	8			
4	Addressable Fault Isolators module with accessories .	Nos.	1			
5	Addressable Control relay modules. (for GRP, ACS, Hooters, PAC, PAS) with accessories	Nos.	10			
6	Addressable Manual Call Points with accessories	Nos.	4			
7	Addressable monitor modules with accessories (monitoring VESDA, WLD & GRP)	Nos.	5			
8	Sounders with strobes with accessories .	Nos.	4			
9	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	350			
10	20 mm MS conduit of 2 mm thickness complete with all joints, elbows, fixing accessories etc. as required.	Mtrs.	50			

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
B	FIRE SUPPRESSION SYSTEM					
1	80 Ltr seamless cylinder with valve	No.	2			
2	NOVEC 1230 Agent	Kgs.	125			
3	Master Cylinder Kit with following items:	Nos.	1			
	- Pr. Guage + Low Pr. Supervisory Switch					
	- Electromagnetic Actuator					
	- Manual Actuator					
	- Pneumatic Actuator					
	- Flexible Discharge Hose					
	- Flexible Actuation Hose					
4	Slave Cylinder Comprising Below Items:	No.	1			
	- Pr. Guage + Low Pr. Supervisory Switch					
	- Pneumatic Actuator					
	- Flexible Discharge Hose					
	- Flexible Actuation Hose					
5	UL Listed Gas Discharge Nozzles	Nos.	3			
6	Seamless Piping with manifold	Lot.	1			
7	Gas Release Panel with accessories	No.	1			
8	Abort Switch	No.	1			
9	Release Switch	No.	1			

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
10	Hooter with Power Supply	No.	1			
11	ABC Stored pressure type Fire Extinguisher 4 Kgs Capacity Mono Ammonium Phosphate based Dry Chemical Powder as per IS 14609 with ISI Mark for Fighting ABC Class of Fire.	Nos.	4			
12	Siganges for fire extinguishers (250x200mm)	Nos.	4			
C	ACCESS CONTROL SYSTEM					
1	TCP/IP based 2 Reader Access Door Controller with Power supply and housing	Nos.	5			
2	Finger print biometric reader with smart card reader with accessories	Nos.	1			
3	Smart Card reader with accessories	Nos.	8			
4	Smart Cards	Nos.	50			
5	Dual leaf 600 lbs electromagnetic lock with inbuilt magnetic contact & Power Supply	Nos.	2			
6	Single leaf 600 lbs electromagnetic lock with inbuilt magnetic contact & Power Supply	Nos.	6			
7	Emergency break glass unit with accessories	Nos.	3			
8	Exit Push Button with accessories	Nos.	4			
9	Access Control with Time & Attendance Software	Lot	1			
10	PC for Access Control Software (BMS Software will also be loaded on the same machine)	Nos.	1			

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
11	8 core x 0.75 sq.mm. shielded armoured cable with accessories	Mtrs.	150			
12	4 core x 0.75 sq.mm.shielded armoured cable with accessories	Mtrs.	150			
D	CCTV					
1	1/3" CMOS, 6mm fixed lens, 800x600 Resolution, POE IP indoor IP camera with accessories as per specifications	Nos	8			
2	Network Video Recorder with VMS Software & HDD capcity for recordig 4CIF resolution, 25fps, 30days.	No.	1			
3	Workstation with 32" monitor to view cameras	No.	1			
E	WATER LEAK DETECTION SYSTEM					
1	4 Zone Water Leak Detection Panel with Modbus connectivity	Lot	1			
2	Water Leak detection Cable Sensor – 20 mtrs	Nos.	4			
3	Electronic Hooter	Nos.	1			
4	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	35			
F	PUBLIC ADDRESS SYSTEM					
1	6W RMS ceiling mount Speakers	Nos.	6			
2	6 zone selection system controller along with	No.	1			

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	microphones					
3	1 CD / DVD Player	No.	1			
4	12W Volume Controller Unit	No.	1			
5	Suitable U Rack for housing 1 no. Amplifier, 1 no. main Console, CD Player.	No.	1			
G	RODENT REPELLENT SYSTEM					
1	Microprocessor based Ultrasonic Rodent Repellent System with stands	No.	1			
2	Rodent Transducer	Nos.	14			
3	Rodent Wire (Connecting Cable) in PVC Conduit	Lot	1			
4	2 core x 1.5 Sqmm FRLS armoured copper cable along with accessories	Mtrs.	35			
H	ASPIRATION SYSTEM					
1	Aspiration Detector for Server Room (55 Sq.m.)	Nos.	1			
2	Power Supply Unit with battery backup	Lot	1			
3	Air Termination nozzles & Capillary tubes	Lot	1			
4	Piping for Aspiration System	Lot	1			
I	BMS					
	Supply, Installation, Testing and Commissioning of					

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	UL listed Necessary Software Packages containing Enterprise Building Management & Control Software Programmes with Dynamic Graphics interfaces. Buildings Integrator platform shall have single-window control over all building operations, and all the relevant data which need to maximize building performance. In addition, Building Manager captures current and historical data for advanced analysis and reporting and will install, customize, and maintain Building Manager to all requirements to create the ideal solution for a wide range of operations.	No.	1			
2	DDC Controller with necessary Housing Panels (For DC Monitoring Parameters as per IO Summary enclosed) (AI-6, DI-0, AO-0, DO-0) Temperature & Humidity Monitoring - 6 Nos. (AI)	Lot	1			
3	Room Temperature + RH Sensor (Wall Mounted - Server Room:3)	Nos.	4			
4	Integration	Lot	1			
	Integrator with necessary Housing Panels which will sit on LAN directly / Network interface unit					
	PAC Units - 3 Nos. (20 Points / Unit on MODBUS)					
	UPS Units - 4 Nos. (20 Points / Unit on MODBUS)					

IBMS WORKS

Sl. No.	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
	Multifunction Meters - 6 Nos. (20 Points / Unit on MODBUS)					
	Water Leak Detection System (Modbus/ BACNet)					
	Fire Alarm System (BACNet / Modbus)					
	Access Control System (MODBUS / SDK)					
	CCTV System (MODBUS / BACNET / SDK)					
5	Signal Cable (2 Core 1 Sq.mm FRLS Armoured, Un-Screened)	Mtrs	50			
6	Communication Cable (2 Core 1.5 Sq.mm FRLS Armoured, Screened) - For 3rd Party Integration	Mtrs	250			
TOTAL – VII (IBMS WORKS)						

DATA SAFE RELATED WORKS

SN	Item Description	UOM	Qty (A)	Unit Rate (B) (Rs. In fig.)	Unit Rate (In words)	Amount (Rs.) (C=A x B)
1	300 ltr Data safe for 1 hr fire rated	Nos	1			
TOTAL – VIII (DATA SAFE RELATED WORKS)						

		Unit Rate (In Figures) (Rs.)	Unit Rate (In Words) (Rs.)
SP02	[SP02] <u>TOTAL FOR DATA CENTER: TOTAL I + TOTAL II + TOTAL III + TOTAL IV + TOTAL V + TOTAL VI + TOTAL VII + TOTAL VIII</u> INCLUSIVE OF ALL TAXES & DUTIES AND EXCLUSIVE OF SERVICE TAX.		
[B]	BIDDER TO QUOTE PERCENTAGE (%) OF TOTAL BASIC ORDER VALUE ON WHICH SERVICE TAX IS APPLICABLE (40%/ 60% / 70%/ 75%/ 100%)		
SPST02	AMOUNT OF SERVICE TAX APPLICABLE(PLEASE QUOTE NUMERICAL ONLY)		
CvtST02	AMOUNT OF CENVAT BENEFIT ON SERVICE TAX APPLICABLE(PLEASE QUOTE NUMERICAL ONLY)		

VAT on works contract / WCT shall be included in the quoted price and no variation shall be payable on VAT on works contract / WCT.

Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified in the Bid document.

Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)

SL. NO.		Item Description	UOM	Qty (A)	Unit Rate (In figures) (Rs.)	Unit rate (In Words) (Rs.)	Amount (Rs.)
PART F	F.1	Implementation of SAP ECC 6.0 with Enhancement Pack 6 or latest in BCPL as specified in the Bid document.	LS	1			
PART G	G.1	Installation and Commissioning of all hardware and software at primary and DR site (other than SAP Implementation)	LS	1			
SP03	TOTAL AMOUNT : PART F + PART G						
SPST03	Applicable Service Tax @ ____% (Service Tax on PART F + PART G) including EDU, CESS & HIGHER EDU CESS)						

SOR For AMC

SL. NO.		Item Description	UOM	Qty (A)	Unit Rate (In Figures) (Rs.)	Unit rate (In Words)	Total Amount (Rs.)
PART H	H.1	System Support Services & Facility Management	Quarter	12			
SP04	TOTAL AMOUNT						
SPST04	Applicable Service Tax @ ____% (Service Tax on PART H) including EDU, CESS & HIGHER EDU CESS)						