

Corrigendum -1
Revised tender document
BIDDING & CONTRACT

DOCUMENTS

Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) , on turnkey basis in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi

THE STATE TRADING CORPORATION OF INDIA LIMITED

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The State Trading Corporation Of India Ltd.

(A Public Sector Undertaking, G.O.I.)

NOTICE INVITING TENDER- E Tender Process

Tender Ref :- STC/JVB/BPMD/CME/D 382/ Dated 26.3.16

1. Bids are invited in two part bidding process **online (e-tendering process)** via limited tender process from enlisted PSUs only , for the work of Supply, Installation, Testing & commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) on turnkey basis , in Jawahar Vyapar Bhawan,1- Tolstoy Marg, Delhi.

The bids have to be submitted on line only.

Sr. No.	Particular	Details
1	Bid issue site	www.eprocure.gov.in
2.	Tender document fee	Rs. 1000.00 (including VAT)
3.	Tender floating date	26.3.15
4.	Pre bid meet date & Venue	4/4/16 at 3:00 pm, knowledge centre, JVB, STC- Already done
5.	Uploading date of pre bid conclusions , amendments	8/4/15
6.	Last Date of issue of tender from STC	28.4.16 up to 3: 00 PM
7.	Date and time of submission the of scanned tender documents with all necessary documents in the e tender portal , physical submission of financial instrument.	28.4.16 up to 3: 00 PM
8.	Date and time of opening of tender (Technical Bid-I)	28.4.16 up to 3: 30 PM
9	Venue of opening	eprocure.gov.in.
10	Date and time of opening of Price Bid of	Shall be intimated later to the

	tender (Part-II)	successful bidders in technical bid.
11.	Amount of earnest money to be deposited (EMD) (By DD/ Banker's Cheque)	Rs. 3.25 lakhs
12.	Submission of EMD and non-refundable bidding fees	Tender box kept on reception of Jawahar Vyapar Bhawan, Tolstoy Marg, New Delhi- 110001, closing time of bid , put in an envelope subscribing name of the contractor and tender details

Note :-

1. Any Deviation from tender conditions shall result into technical disqualification.
2. All the tender documents should be signed by the bidder as a token of acceptance and shall be submitted in PDF format on line .
- 3.. If the dates mentioned above happens a Holiday in STC, the next working day shall be considered as mentioned date.

The State Trading Corporation Of India Ltd.

(A Public Sector Undertaking, G.O.I.)

Instruction for filling the e tender

- 1 Bids are invited via limited tender enquiry process for Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS (Baggage Inspection system),HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector), in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi
2. Bids have to be submitted on line only via <http://eprocure.gov.in/eprocure> (the e-procurement portal of NIC (eprocure.gov.in/eprocure). No bids shall be accepted in hard copy or any other form.
3. For submission of e bids, bidders are required to get them registered with NIC's central Public Procurement (CPP) portal (<http://eprocure.gov.in/eprocure>) using class-II/Class –III digital signature certificate. All the details mentioned during registration / enrolment process should be correct / true. Bidders have to abide by all the terms and conditions mentioned during registration process.
4. Any Financial instrument such as tender fee, earnest money deposit (EMD) and which are required to be submitted in the desired form must reach STC before closure of the tender. The details of financial instrument entered during the e bid submission should tally with those submitted physically. Otherwise, the bid may be rejected.
5. The bidders are required to upload soft copies of all relevant documents.
6. Bidders are advised in their own interest to submit the on line bids well before the bid document submission end date and time (as per server system clock of CPP). STC will not be responsible for any delay or the difficulties encountered during submission of bids at the eleventh hour due any technical or other problems.
7. For any queries relating to the process of online bid submission or queries relating to Procurement Portal (eprocure.gov.in), the bidders may contact CPP Portal Helpdesk on Tel No's.: 1800-3070-2232, 91-7878007972, 91-7878007973, 91-7574889871 and 91-7574889874.

8. Bidders may regularly visit STC website for any information / clarification / addendum / corrigendum etc. related to this tender, processing of bids received, award of job, pre bid meet decisions etc. STC shall not be liable to send any individual information or publish a public notice for any further information regarding this tender in newspapers.

9. Portal for Online Submission www.eprocure.gov.in

10. Bid Copies along with supporting documents to be submitted : Online

11.. Following documents are required to be uploaded online of the bid:

Scanned copy of all the documents as required for bid submission

Scanned copy of demand draft/ banker' s cheque toward bidding fee

Scanned copy of demand draft/ banker' s cheque towards EMD

12. A bidder may modify, substitute or withdraw its e-bid after submission before the last date and time of bid submission. No bids shall be modified, substituted or withdrawn by the bidder on or after the last date and time of bid submission. For modification of e-bids, bidder has to detach its old proposal from e-tendering portal and upload/resubmit digitally signed modified bid.

13. STC may ask the bidders to submit any or all the documents in original submitted as part of their online bid anytime during the bid process

14. If there is a discrepancy between words and figures, the amount in words shall prevail. However, where the amount expressed in words does not represent arithmetically correct total, the amount in figures shall prevail.

15. It shall be the bidder's responsibility to ensure that adequate documentary proof is provided in the bid for each of the technical evaluation

16.. The bid document available on e- procurement portal shall be taken as final

DEFINITIONS

1. “Application” shall mean the request submitted by interested parties for obtaining the bid document.
2. ‘Bid/Tender” shall mean documents issued by STC to the prospective bidder.
3. “Bid Security/Earnest Money/EMD” shall mean the amount to be deposited by the Bidder with the Bid.
4. “Bid Validity” shall mean the period for which the Bids shall remain valid.
5. “Bidder” shall mean the party participating in the Bidding process pursuant to and in accordance with the terms of this document.
6. “Contract Agreement” shall mean the agreement to be signed between the Successful bidder and the nominee of the competent authority on behalf of STC.
7. “Contract Price” shall mean the financial bid of the Successful Bidder as accepted by the STC.
8. “Date of commencement of work” shall mean the date of start as communicated by Letter of intent or work order.
9. “Defects Liability Period/Maintenance Period” means the period after completion of the contract during which the STC or his authorized representative/Engineer-in-charge will notify to the Contractor any defect noticed in the work and the contractor is liable for, replacing or repair the same as provided under the Terms of the Contract/ Document. Proof of dispatch of letter notifying the defect/intimating the representative of Contractor at site on the last date of Defect Liability period will make the contractor liable for rectifying all such defects.
10. “Engineer in Charge (EIC)” means the authorized representative nominated by STC.
11. “Tender Evaluation Committee” shall mean the committee constituted by STC for the evaluation of the bids.
12. “Letter of Award/Notification of Award” shall mean the letter issued by the STC to the successful bidder inviting him to sign the contract agreement.

13. 'STC' shall mean The State Trading Corporation of India Limited having its registered office at Jawahar Vyapar Bhawan, Janpath, Connaught Place ,Delhi
14. The Contractor shall mean the sole proprietor, or contractor or company whether incorporated or not, undertaking the works and shall include the legal representative or such individual successors, heirs, administrators or assignees of such sole proprietor, contractor or company, as the case may be or the persons composing such contractor or company of the successor of such contractor or company and the permitted assignees of such individual or contractors or contractors or company.
15. Engineer-in-charge shall mean the officer designated by STC who shall supervise and in charge of the work, and issue necessary instructions at site, on behalf of STC.
16. "Performance Security/Performance Bank Guarantee" shall mean the amount to be paid by the successful bidder as per relevant clause mentioned in the tender document.
17. " Work" means Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie , DFMD(Door Frame metal detector) ,, in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi
18. "Site: shall mean the place where the works under the Contract are to be carried out and the details of which are provided in this document.
19. "Successful Bidder" shall mean the bidder who has been declared technically qualified and the bid has been accepted by competent authority of STC. The successful bidder has to sign the contract agreement.
20. "Scheduled Banks" mean Scheduled Commercial Banks of Govt. of India.
21. Order placing authority means: - The officer who is issuing or Placing detailed work order to the contractor.

Chief Manger (Elect.)
State Trading Corporation of India Ltd.

Criteria for Technical Evaluation

Following documents must be submitted with technical bid for technical evaluation:

Name of Work- Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) , on turnkey basis in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi

(I) Three similar works each costing not less than Rs. 70,00,000 or two similar work each costing not less than Rs. 85,00,000=00 or one similar work costing not less than Rs 135,00,000 in last 7 years ending last day of the month to the bids are invited.

Similar work means the work of Supply, Installation, Testing & Commissioning (SITC) consisting combination of CCTV surveillance system / X Ray BIS(Baggage Inspection system)/DFMD(Door Frame metal detector)/HHMD (Hand held Metal Detector)/ Hand Held Walkie-talkie, on turnkey basis in Central Govt./PSU/State PSU/ State Govt. undertaking.

(II) The bidder will have to produce satisfactory performance report of the above work experience from order placing authority or higher.

(III) The bidder should be financially capable for execution of the work as per NIT specification. For this purpose Bidder should have positive net worth and profitable during last 3 financial years. Documentary proof to be submitted along with technical bid

(IV) The bidder should enclose the Earnest money (E.M.D.) of an amount of Rs. 3,25,000=00 and Rs. 1000=00 as tender fee (including VAT) in the form of Crossed Bank Draft / Bankers Cheque payable to the State Trading Corporation of India Ltd payable at New Delhi at the time of bidding.

(V) Detailed product brochure/catalogue and technical literature duly attested by bidder, for the mandatory items should be enclosed with the technical bid

(VI) Any other documents needed as per bid document.

(VII) Bidder should ensure to deliver the copy of scanned uploaded document in physical form also.

Chief Manager-Elect.

INSTRUCTION TO BIDDERS:-

DEFINITION: - The term ‘Corporation’ wherever appearing in this specification would mean State Trading Corporation of India Ltd. and shall include the nominated person authorized to place an order this specification.

1.0 PREPARATION OF TENDER:-

1.01 Before submission of the tender, the Bidders are requested to have themselves fully conversant with the “Pre-Qualification Requirement “specification, nature of work, the site conditions and general conditions of contract etc., so that, no ambiguity arises at a later date in this respect. They may visit the site for seeing the actual working conditions and the nature of work.

1.02 Only such contractors need to submit bids which meets the criteria as laid down in the tender documents and those can submit satisfactory evidence in that regard.

1.03 The Corporation reserves the right to revise, amend or cancel the tender at any stage of tendering process & also the right to postpone the date for opening of tender without assigning any reason.

1.04 If the Bidder deliberately furnishes wrong information in his tender, the bid would be liable to be rejected out rightly at any stage and the security deposit and/or EMD/ Dues to STC, shall be forfeited

1.05 Tender document are not transferable. JV (Joint Ventures) contractors are not allowed to participate in the tender.

1.06 Not more than one tender for the work shall be submitted by one contractor or one contractor of contractor.

1.07 The Corporation shall not be liable for expenses incurred by the Bidder in the preparation of the tender whether his tender is accepted or not.

1.08. Bids containing any alterations/cuttings/marks of eraser etc even if accompanied by signature shall be liable to be rejected on such grounds.

1.09 Successful L-1 bidder shall be decided on the basis of total price quoted in the price bids section

1.10 Tenders submitted by courier/post liable/ manual submission to be rejected. Only electronic submission is accepted.

1.11 Partial bidding shall be rejected. .

1.12 The tender is to be furnished in two parts i.e. PART-I (Techno-commercial bid) & PART-II (Price Bid); All the tender document digitally signed accompanied by documents in support of pre-qualifying requirement / tender enquiry , scanned copy of financial instrument (for EMD and tender fee) should be uploaded to the <http://eprocure.gov.in/eprocure>

1.13 The Part-I i.e. Techno-commercial Bid will be opened on the scheduled date and time online.

1.14 The bidder whose Part-I (Techno- Commercial bid) bids have been found acceptable, shall be intimated through written communication and / or through telephonically as the case may be. The price bid of these technically qualified bidders shall be opened on the scheduled due date and time on line.

1.15 Intimation regrading date, time of opening of price bid shall be intimated on line to the technically qualified bidders. .

1.16 STC reserves the right to accept or reject any bid, and/or to annul the bidding process and reject all bids, at any time prior to award the contract, without thereby incurring any liability from the affected bidder or bidders nor shall STC have any obligations to inform the affected bidder or bidders of the grounds for STC's action.

1.17 STC reserves the right to nominate or replace the Engineering in charge during the currency of contract period or during the tender process.

2.0 Earnest Money Cost of tender document:-

2.01 Before submitting the tender, the Bidder shall deposit an amount as indicated on cover page as earnest money, the cost of tender document in the form of crossed Bank draft / Bankers Cheque payable to the State Trading Corporation of India Ltd payable at New Delhi.

2.02 Any tender not accompanied with EMD, cost of tender document is liable to be rejected. The bidder has to upload the scanned copy of EMD, tender document fee online and physically submit the EMD, tender document fee in the tender box placed at the reception before /on the tender closing date.

2.03 In case of unsuccessful bidders the earnest money will be refundable on application after award of work to the successful bidder.

2.04 Request for adjustment/appropriation of earnest money/deposits if any already lying with the Corporation in connection with some other tender/orders/works shall not be entertained.

2.05 No interest shall be payable on earnest money deposits.

3.0 General Terms:-

3.01 The Corporation is not liable to accept the lowest or any other bid and shall not assign itself to accept the lowest or any other tender and will not assign any reason(s) for the rejection of any tender or a part there of.

3.02 The tenderer shall treat the details of specification and other tender documents as and confidential and they shall not be reproduced anywhere without the written authorization of the Corporation.

4.0 RECEIPT OF TENDERS :-

4.01 The tenders should be filled on line as detailed above. No other form of tender submission shall be accepted.

5.0 DEVIATIONS:-

5.01 Bids containing deviations from the specifications and general condition of contract shall be liable to be rejected.

6.0 SUBMISSION OF DOCUMENTS ALONG WITH THE BID

6.01 Part-I deals with technical and commercial particulars and performance of the bidders. The Bidder shall upload all required documents as prescribed in the tender document , pre-qualifying requirement ,scanned copy of signed tender document , scanned copy of financial instrument except price bid with part I, duly digitally signed, acknowledging his acceptance to the terms and conditions of tender.

6.02 Part-II shall be only the “Price Bid Section”. The successful bidders in techno commercial evaluation shall be intimated by the Corporation. Price bid shall be opened of only those successful bidders who qualify in techno commercial evaluation.

7.0 VALIDITY OF TENDER:-

The bid shall remain valid for 90 days which will reckon from the date of opening of technical bid. Bids once opened cannot be withdrawn by the bidder at any stage. Bidders mentioning a shorter validity period than specified are liable to be rejected. In case validity period is not stated it will be presumed that the bid is valid for 90 days without obtaining any confirmation from the bidder.

8.01 CANVASSING: -

No Bidder shall canvas any, Corporation official or the Engineer with respect to his or other tender. Contravention of the condition will invoke in rejection of the tender.

Chief Manger (Elect.)

FORMS OF TENDER

The Chief Manager (E)
STC of India Limited
Jawahar Vyapar Bhawan
1-Tolstoy Marg
Janpath
NEW DELHI – 110 001

Ref. : Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS (Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) ,on turnkey basis in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi.

Dear Sir,

I/We hereby tender for the execution of the work specified in the under-written memorandum within the time specified at the rates specified therein on item rate basis and in all respects, in accordance with the specifications, drawings, design and instructions supplied in writing by the STC and with such materials as are provided for and in all respects in accordance with such conditions so far as possible.

General description	Tender for “Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS (Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) ,on turnkey basis in Jawahar Vyapar Bhawan, 1 Tolstoy Marg, Delhi
Earnest Money	3,25,000=00, EMD shall be refunded on request after technical bid opening .
Total security deposit	10 % of the awarded contract value.
Period of completion	2 months from the date of issuance of LOI
Performance	5 % of the awarded value of the contract , as per tender terms

Bank Guarantee	
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1. I/We hereby distinctly and expressly declare and acknowledge that before the submission of my/our tender, I/We have carefully followed the general instructions and read the detailed specifications and schedule of quantities and clearly understand all the conditions of the contract.
2. I/We have seen the location where the said work is to be done and made such investigations of work required in regard to the materials required to be furnished as to enable me/us to complete the work successfully should this tender be accepted in whole or in part.
3. I/We hereby agree to abide by and fulfill all the terms and conditions annexed hereto. To execute, all the works referred to in the tender documents upon the terms and conditions contained or referred to there in and carry out such deviations as may be ordered at the rates quoted in the tender documents.
4. I/We agree that my/our earnest money shall stand forfeited otherwise if I/We fulfill the condition and start the work the said earnest money shall be retained by STC towards security deposit.
5. I/We agree to keep the offer valid for 90 days (3 months) from the date of opening of price bid.

I/We/am/are

Yours faithfully,

(Bidder)

Letter for submission of bid

From:-----

To

The Chief Manager
Building Project and maintenance Division,
STC of India Ltd..
Jawahar Vyapar Bhawan
1, Tolstoy Marg, New Delhi-110001.

Sir,

1. I have examined the conditions as incorporated in the Tender documents for the Execution of work and having visited and examined the site of said work, I/we the undersigned, offer to execute the said works in conformity with the conditions of tender,
2. Should this tender be accepted I/We undertake to commence the work within seven (7) days of issue of the Letter of intent for the said work and further undertake to perform whole of the work comprised in the contract for a period of 12 months within the period specified under tender documents.
3. I/We agree to abide by this tender for a period of **90 days** from the date of opening of Bid or such extended period as may be mutually agreed as prescribed in Instruction to Bidders and shall remain binding upon us .
4. A sum of Rs. 3,25,000/- (Rs. Three Lakhs Twenty Five thousand only) towards Earnest money Deposit in the form of Demand Draft/ Pay Order/Banker's Cheque Bearing No. _____ Drawn on _____ Dated _____ in terms of the Instruction to Bidders enclosed in scanned form on line with Technical Bid and has been physically deposited in STC before the bid opening time.

5. Unless and until an agreement is prepared and executed, this bid together with STC's written acceptance thereof shall constitute a binding contract between us.
6. We understand that STC is not bound to accept the lowest bid and that STC reserve the right to accept or reject any bid, and/or to annul the bidding process and reject all bids, at any time prior to award of contract, without thereby incurring any liability from the affected bidder or bidders nor shall STC have any obligations to inform the affected bidders of the grounds for STC's action.

Name of the representative of the contractor to sign:

(a)-----(b)-----

Or

Name of person having power of attorney to sign the contract **(certified true copy of the Power of attorney should be attached)**

Yours Faithfully,
Signature of the Bidder

Permanent address -----

Complete details of the dealing person name and address with designation

Note : The contractor is to fill up the blanks in above form before signing & submitting the bid. This application is made with full understanding that:

1. Bids submitted by bidders will be subject to verification of all information furnished for pre-qualification during the bidding process.
2. STC reserves the right to amend the scope and value of any contracts bid under this work.

Signature of Authorized representative of the bidder with stamp

PROFORMA – 2

Letter for Unconditional acceptance of Bid Conditions

No.

Date:

The Chief Manager (E)
Building Project and Maintenance Division
The State trading Corporation of India Ltd.
Jawahar Vyapar Bhawan,
1-Tolstoy Marg,
New Delhi-110001.

Subject: - Unconditional acceptance of Bid Conditions for tender

Dear Sir,

1. I/We have read and examined and understood all the conditions in the bid documents for the subject work and we hereby unconditionally accept the bid conditions entirely for the said work.
- 2 I/we hereby submit our bid and undertake to keep it valid for a period of 90 days from the date of opening of bid
3. I/we undertake to execute the above items strictly in accordance with the requirements and particulars /Specifications stipulated in the bid documents.
4. I/we hereby further undertake that during the said period:
 - (A) I/we shall not vary/alter or revoke my /our bid during the validity period of Bid.
 - (B) I/we have quoted for the complete scope of the said work
 - (C) I/we undertake to abide by the terms and conditions as stipulated in STC bid documents and as amended thereafter before award of work.
 - (D) I/We have not enclosed any condition/deviation to conditions of Bid documents in the envelope containing Price Bid.

5. I/we agree that in an event of conditional bid, the bid is liable to be rejected without assigning any reason whatsoever and the Earnest Money deposit is liable to be forfeited.
6. This undertaking is in consideration of STC agreeing to open my bid, considering and evaluating the same for the purpose of award of work in terms of provision of bid documents.

I submit EMD of Rs..... through Bank draft/ Banker" cheque No. ----- dated ----- issued by ----- (Name of Bank) along with the Technical Bid.

Signature along with seal of the company of the signatory duly authorized to sign the Bid on behalf of the Contracto

Name -----

Designation-----

Name of Company-----

Date and Postal address-----

Witness:

Signature_____

Date_____

Name and address & Telephone No._____

Performa for submission of past contractual performance/declaration by the bidder

It is submitted that :-

1. We have not made any misleading or false representation in the forms, statements and attachments in proof of the Pre-Qualification requirements.
2. We do not have records of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.
3. Our business has never been banned/ Blacklisted by any Central/State Govt. department/Public Sector Undertakings or Enterprises of Central /State Govt.
4. We have submitted all the supporting documents and furnished the relevant details as per the prescribed format.
5. The information and documents submitted with the tender by us are correct and we are fully responsible for the correctness of the information and documents submitted by us.
6. We have not submitted fraudulent document/information either in present or past tenders.

Signature of Authorized representative of the tender

Bidder's stamp

ARTICLES OF AGREEMENT

This agreement made on the ____ day of _____, Two thousand between "The State Trading Corporation of India Limited" (hereinafter referred to as the Client) and whose registered office is located at Jawahar Vyapar Bhawan, 1-Tolstoy Marg, Janpath, New Delhi –110001 on the one part and M/s. _____ (hereinafter referred to as the Contractor) and whose registered office is located at _____ -----on the other part, whereas the Client desires certain works to be executed by the contractor viz. "

_____ in considerations of the amount of Rs. _____ (Rupees _____ in words) and subject to such terms and conditions as set out in the tender documents (Tender No. _____ dated _____) which shall form part of the contract.

Whereas the Contractor has agreed to keep STC indemnified at all times against any claims/liabilities/proceedings etc from any third party or otherwise arising out of/or in connection with the tender documents.

Whereas in consideration of the payments to be made by the Client to the Contractor as hereinafter mentioned the contractor hereby agrees with the Client to perform the services in conformity with the provisions of the agreement.

Whereas the Client agrees to pay the contractor in consideration of the performance of the services such amounts as may become payable under the provisions of the agreement at the times and in manner prescribed by the agreement.

NOW THIS AGREEMENT WITNESSED AS UNDER

That the terms and conditions in the tender documents and award letter No. _____ dated _____ will form part of the agreement and shall be binding on both the parties.

In witness were of the parties have caused this agreement to be executed on the day and year first above written.

Binding Signature of the Contractor

Binding signature of the Client

In the presence of :

Name:

Name:

Designation

Designation

(Stamp Paper in the name of the Bank)

Schedule 'B'

PERFORMANCE BANK GUARANTEE FORMAT

(To be executed by any Nationalized Bank in India having their Branch in the State of End-user Department on stamp paper of Rs.100/-)

Name & Address of the Buyers (End-user Department)

1. Against Tender No. _____ dated _____ and Contract No. _____ Dated - _____(hereinafter called the Contract entered into between the STC of India Ltd., New Delhi which expression shall, unless repugnant to the context or meaning, thereof include its successors, representatives & assigns for and on behalf of _____ (hereinafter called the Buyers/End user Department) and M/s. _____(Name and Complete Address) (hereinafter called the Sellers) which expression shall, unless repugnant to the context or meaning, thereof include its successors, representatives & assigns this is to certify that at the request of the Sellers, we _____ Bank unconditionally and irrevocably guarantee to pay to the Buyers immediately on first demand, the amount of US \$/Rupees _____(@ 10% of contract value) without any protest or demur or reference to the Sellers if the Sellers fail to perform all or any of their obligations under the said contract. The decision of the Buyer/End user _____or The STC of India Ltd., New Delhi duly communicated in writing to the bank that the sellers have failed to perform all or any of the obligations under the contract shall not be questioned and be final and conclusive. The said amount of US \$/Rupee _____ will accordingly forthwith be paid without any conditions or requirement of our proof whatsoever failing which interest @ 15% p.a. on monthly rest basis shall be payable by the Bank to Buyer.
2. It is fully understood that this guarantee is effective for a period up to _____ (completion period 2 Months + 60 days) and that we _____ Bank

undertake not to revoke this guarantee during its currency (up to claim period) without the consent in writing of the Buyers.

3. We _____ Bank, further agree that the buyer shall have the fullest liberty, without affecting in any manner or obligations hereunder to vary/extend any of the terms and conditions of the said contract or/extend time of performance by the Sellers from time to time or to postpone for any time or from time to time any of the powers exercisable by the Buyers against the said sellers and/or forebear to enforce any of the terms & conditions relating to the said contract and we, _____ Bank shall not be released from its liabilities under this guarantee by reasons of any such exercise, variations or extension being granted to the said sellers or for any forbearance and/or commission on the part of the buyers, or any indulgence by the Buyers, to the said Sellers or by any other matter or thing whatsoever which under the law relating to the sureties would, but for this provision have the effect of so releasing us from our liability under this performance guarantee. We further agree that the validity period of this Performance Bank Guarantee will be extended by us upon receipt of any such request in writing from the Buyer and any charges on account thereof shall be to the account of seller
4. We _____ Bank further agree that the guarantee herein contained shall not be affected / discharged by any change in the constitution of the said Sellers/Buyers/Bank.
5. The Guarantee will be governed by Indian Laws and will be subject to the jurisdiction of competent courts in the State of Buyer / End – user India alone.
6. No claim shall be admissible against the Buyer in respect of interest on Performance Guarantee regardless of the time of release.
7. The Bank further agrees that decision of the Buyer as to the failure on the part of - _____ to fulfill their obligations as aforesaid /or as to the amount payable by the bank to the Buyer shall be final, conclusive & binding on the Bank.

8. This Guarantee will remain in force up to _____(completion period 2 Months + 60 days) and any demand in respect thereof should reach Bank not later than 10 (Ten) working days (claim period) from the expiry of above validity date.

9. Notwithstanding anything entered hereto Banks liability under this Performance Bank Guarantee shall not exceed _____(in words. Bank is liable to pay the guaranteed amount if Buyer same upon in written claim/demand on of before the expiry date.

FOR _____ BANK

ACCEPTED

Witness:-

GENERAL CONDITONS OF CONTRACT- SECTION B

1.0 CONTRACT DOCUMENT

1.1 The terms Contract Document means the Notice Inviting Tender, Tender Form, Instructions to Tenders, Special Conditions, General Conditions of Contract, Specifications, Price Schedule of Quantities, Scope of work, scope of supply and Drawings and Articles of Agreement and all other items mentioned in the Index page.

2.0 COMPETENCY:

This tender enquiry is floated for PSUs only. The bid has to be signed by the person authenticated by the Managing Director of the PSU concerned. The bid document should be signed by the authenticated person on all pages with seal of the organization. The entire tender document would form part of the contract.

3) INSPECTION OF SITE

Any site information given in this document is for guidance only. The Bidder is advised to visit and examine the Site of works and its surroundings at his/their cost and obtain at his/their own responsibility, any information that may consider necessary for preparing the Bid and entering into a Contract with the Client, including availability of electricity, water and drainage, where applicable. The contractor is free to raise any clarification /doubts regarding scope of work/ scope of supply etc . STC shall not be liable for such costs, regardless the outcome of the selection process.

4) ENTRIES

All the entries in the tender documents must be in English. They must be hand written in ink only. Any tender in whom there is over writing or marks of erasure is liable to be rejected. Tender containing any alterations/cuttings/marks of erasers etc. even if accompanied by signatures shall be liable to be rejected on such grounds. Price Bid to be filled up in figure and words for rate and amount of each item. The mode of bid submission is on-line only

5) ADJUSTMENTS

All compensation or other sum of money payable by the Contractor under the terms of the contract may be deducted from or adjusted against his security deposit, against any sum which may be due or become due to the Contractor by STC on any account whatsoever. Bidder who proposed any alteration in the work specified in the said form of invitation to

tender or in the time allowed for carrying out the work or which contains any other conditions of any sort shall be liable to rejection.

6) REJECTION OF TENDER

The Contractor shall fill in the rates tendered in figures as well as words. The amount of each item should be worked out and the requisite total given. The bidders who do not fulfill these requirements, their tender is liable to be summarily rejected.

No alteration made by the bidder in the notice of tender, instructions to the Contractors, in the contract form, in the conditions of contract, in the drawings, in specifications or in quantities accompanying the same shall be recognized, and if any such alterations are made or any special conditions are attached, the tender is liable to be rejected.

STC reserves the right to accept or reject any bid and/or to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability from the affected bidder or bidders nor shall STC have any obligations to inform the affected bidder or bidders of the grounds for STC action.

7) CHECK RATES & FIGURES

If on check and verification differences are found between the rates given by the contractor in words and figures or in the amounts worked out by him, the following procedure shall be followed:

7.1 Where there is a difference between the rates in figures and words, the rate which correspond to the amount worked out by the contractor shall be taken as correct.

7.2 Where amount of the item is not worked out by the Contractor or it does not correspond the rate written either in figures or in words then the rates quoted by the contractor in words shall be taken as correct and amount shall be worked out accordingly.

7.3 Where rates quoted by the contractor in figures and words tally but the amount is not worked out correctly. The rates quoted by the contractor shall be taken as correct and not the amount.

8) NON RECOGNITION OF UNWARRANTED CLAIMS

The contractor shall not in any case after acceptance of a contract rate, be paid any; extra charge for lead involved in transport of materials to site, Installation and hire of T & P sheds.

For materials, in case the sources of materials available. All taxes including octroi toll or sales tax or any other taxes etc. shall be payable by the contractor and no claim whatsoever in this respect shall be entertained.

9) CANVASSING

Any canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing shall be liable to rejection.

10) AUTHORIZED OFFICER

If the headquarters of the successful bidder are elsewhere other than in Delhi, he shall have to nominate /depute a duly authorized officer in Delhi from the date of commencement of the work until the work is completed. This officer will coordinate with STC for day today works and will primarily carry out the works under his supervision .Such officer(s) will be authorized to act on behalf of the successful bidder.

11) DEPLOYMENT OF TECHNICAL & OTHER STAFF

The contractor shall deploy the qualified personnel such as project Engineer having experience in related work for the execution of the work .In case, the contractor fails to deploy proper technical staff as aforesaid, he shall be liable to pay to STC of India Limited at the rate of Rs.5000/- per week (Five thousand) for Project Engineer.

12) REPLACEMENT /RECTIFICATION IN CONTRACTOR ADDRESS

Any notice under the Contract shall be deemed to have been served on the successful bidder if served upon his authorized officer or sent by registered letter at his known address. Contractor's authorized officer shall not be changed and shall not leave during the duration of the contract, unless prior consent of the STC . If the STC require the contractor to carry out any replacement/rectification under terms of the contract either during the currency of the contract or after the works are completed, but before the expiry of the Defect Liability Period, the contractor or his duly authorized agent shall carry out the same.

13) SUBLETTING

No part of the contract shall be sublet without the written permission of the Engineer-In-Charge STC.

14) CO-ORDINATION

The successful bidder shall co-ordinate and co-operate with all other agencies appointed by the STC so that the work shall proceed smoothly with least possible delay and to the satisfaction of the STC. Work shall be carried out in such a manner that the work of other agencies operating at the site is not hampered due to any action of the contractor. Proper co-ordination with other agencies will be contractor's responsibility. In case of any dispute, the decision of STC shall be final and binding on the contractor.

15) ACKNOWLEDGEMENT OF ACCEPTANCE

The bidder whose tender is accepted will acknowledge the consent of the order within a week's time from the date of receipt of such a written order, intimate to the Engineer-in-charge of his acknowledgement. Bidder's failure to furnish such acceptance within the stipulated time shall give right to the Engineer-in-charge to revoke the acceptance of tender without any further notice to bidder.

16) SIGNING OF CONTRACT DOCUMENTS

After acceptance of the tender, the bidder shall sign the necessary contract documents within 15 days of the above intimation. In case of delay, the earnest money may be forfeited and the tender may be cancelled at the discretion of the STC.

17. SAFETY CODE, LABOUR CAMPS SANITARY ARRANGEMENTS

The contractor shall follow the Safety Code and Model Rules for the Protection of health and sanitary arrangement for workers as prescribed by the CPWD as regard to safety code and first aid facilities. Contractor shall be fully responsible for safety of his workers and in case of any accident/mishap the entire responsibility shall be on the contractor.

Deterrent penal and legal action shall be taken in the event of any failure on the part of the contractor to discharge the safety obligations as determined by the STC.

18. PAYMENT OF WAGES BY THE CONTRACTOR

The contractor shall directly pay to labour employed by him and shall be solely responsible for following all Government rules and regulations applicable for employment.

19. REMOVAL OF PERSON

The Engineer-in-charge may require the contractor to remove from the site of the work any person or persons in the contractor's employment who have been found to be incompetent

or due to misconduct and the contractor shall forthwith comply with such requirement/instructions.

20. ARBITRATION

In the event of any dispute or difference relating to the interpretation and application of the provisions of the tender, such disputes or differences shall be referred by either party for arbitration to the sole arbitrator in the department of public enterprises to be nominated by the Secretary to the Government of India in charge of the department of public enterprises. The arbitration and conciliation act 1996 shall not be applicable to arbitration under this clause. The award of the arbitrator shall be binding upon the parties to the dispute , provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law secretary, department of legal affairs, Ministry of Law and justice, Government of India . Upon such reference of dispute shall be decided by the Law secretary or the special secretary /Additional secretary, when so authorized by Law secretary whose decision shall bind the parties finally and conclusively. The parties to the dispute will share equally the cost of arbitration as intimated by the arbitrator.

21.0 LIEN IN RESPECT OF CLAIM IN OTHER CONTRACTS

Any sum of money due and payable to the contractor (including the security deposit refundable to him) under the contract may be withheld or retained by way of lien by the STC in respect of payment of a sum of money arising out of or under the same or any other contract made by the contractor with the STC.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the STC will be kept withheld or retained as such by the STC or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

22.00 The Indemnity Clause

The Contractor shall at all times indemnify and keep STC indemnified against any claims /liabilities/proceedings etc. from any third party in respect of any damages or compensation

payable in consequences of any accident or injury sustained or suffered by its employees/workmen or agents or by any other third party resulting from or by any action, omission or operation conducted by or on behalf of the Contractor.

The Contractor shall at all times, indemnify and keep STC indemnified against any and all claims of the Employees, Workman, agent(s), sub-contractor if permitted by the Engineer in charge, employed engaged or otherwise working for the Contractor, in respect of wages, salaries, remuneration, compensation or the like.

All claims regarding indemnity shall survive the termination or expiry of the Contract and shall be recoverable from Performance Bank Guarantee (PBG) in addition to any other means.

23) WATER & POWER FOR INSTALLATION

STC shall provide power & water at one point for the proper execution of the work free of cost under normal circumstances. In case STC is not in a position to supply the water and/or power, the Contractor will make his own arrangement so that the work does not suffer. However, no claim of the contractor whatsoever shall be entertained by STC on this account.

24) COMPLIANCE OF LABOUR LAWS

The contractor shall abide by the Contract Labour, (Regulation and Abolition) Act, 1970, and Contract Labour (Abolition and Regulation) Central Rules 1971. The Contractor shall comply with the provisions of Payment of Wages Act, 1936. Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923. Industrial Disputes Act and other applicable regulations and other labour laws applicable to Contract Labour as mentioned below:

1. Industrial Disputes Act;
2. Industrial Establishment (Standing Orders) Act,
3. Trade Unions Act;
4. The Factory Act;
5. Employees Provident Fund & Miscellaneous Provision Act
6. Employees State Insurance Act;
7. Workmen's Compensation Act'
8. Payment of Gratuity Act;

9. Minimum Wages Act;
 10. Payment of Wages Act;
 11. Equal Remuneration Act,
 12. Payment of Bonus Act,
 13. National/Weekly Holidays Act,
 14. Inter-state Migrant Workmen (Regulation of Employment and of service conditions) Act.
 15. The contractor whose tender is accepted and who employs or employed 20 or more workers on any day of the preceding 12 months in various contracts, that he may have in other departments/establishments of STC shall obtain a valid License under the Contract Labour (R&A) Act 1970 and the Contract Labour (Regulation and Abolition) (Central) Rules 1971 before the commencement of the work and continue to have a valid license until the completion of the work.
- Any failure to fulfill this requirement shall attract the penal provisions of the Act, which includes imprisonment for a term which may extent to three months or with fine or both.
16. No Labour below the age of 18 shall be employed on the work.
 17. The contractor shall pay to the labour employed by him wages not less than the minimum wages in accordance with the notification for minimum wages issued by Govt. of NCT of Delhi (Labour Department) or Central Govt., whichever is higher from time to time
 18. The contractor shall issue an employment Card to each worker within three days of the employment of the worker. This card shall be maintained up to date.

25 .FORCE MAJEURE

For the purpose of this Contract, "Force Majeure" means an event which is beyond the reasonable control of STC or the Contractor, is not reasonably foreseeable, is unavoidable and is not brought about by or at the instance of the party claiming to be affected by such events and which caused the non-performance or delay in performance, and which makes a party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other extreme adverse weather conditions (i'e Act of God) , strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the party

invoking Force Majeure to prevent), confiscation or any other action by Government agencies.

The party which is unable to fulfil its obligations under the present contract must within 24 hours from the day of occurrence of any of the causes mentioned in this clause shall inform the other party of the existence of the circumstances referred to above, which are responsible for causing delays in performance of the contract.

The party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimise the consequences of any event of Force Majeure.

The failure of either party to fulfil any of its obligations under this contract shall not be considered to be a breach of, or default under, the Contract insofar as such inability arises from an event of Force Majeure, provided that the party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objectives of carrying out the terms and conditions of the Contract.

Notwithstanding the above in case of Strike /Labour dispute that prolongs beyond a period of 48 hours, the Contractor is required to inform STC about the same, on account of which STC reserves the right to get the work done from any other agency at the risk and cost of the Contractor.

26. TERMINATION

Notwithstanding anything elsewhere provided herein and in addition to any other right or remedy of STC under the contract or otherwise, including right of STC for compensation for delay, the Engineer-in-charge may, without prejudice to his right against contractor in respect of any delay, bad workmanship or otherwise or to any claims for damage in respect of any breach of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has or has not elapsed by intimation in writing, absolutely determine the contract.

Default or failure by the contractor in any of the under mentioned cases, including but not limited to the following shall be the basis of taking action under this clause of the contract:

- 1) Failure to provide at the job site, sufficient labour, material, equipment, machinery, and/or facilities required for the proper and/or due execution of the work or any part thereof;

- 2) Failure to execute the works or any of them in accordance with the contract
- 3) Disobedience of any order or instruction of the Site Engineer and/or Engineer-in-charge.
- 4) Negligence in carrying out the work or carrying out of work found to be unsatisfactory by the Engineer-in-charge.
- 5) Abandonment of the works or any part thereof;
- 6) Failure to execute the contract in terms of the form of the Contract forming part of the Tender Documents within 10(ten days) of notice in this behalf from STC.
- 7) If the contractor is incapable of carrying out the work;
- 8) If the contractor misconduct in any manner;
- 9) If there is any change in the constitution of the contractor (if a contractor) or in the circumstances or organization of the contractor, which is detrimental to the interests of STC.
- 10) Dissolution of the contractor (if a contractor or commencement of liquidation) or winding up (whether voluntary or compulsory) of the contractor (if a company) or appointment of a receiver or Manager of any of the contractor's assets and/or insolvency of the contractor (if a sole proprietorship) or of any partner of the contractor (if a contractor);
- 11) Delay in execution of work, which in opinion of Engineer-in-charge shall delay the completion of work beyond the stipulated date of completion;
- 12) Distress, execution, or other legal process being levied on or upon any of the contractors goods and/or assets;
- 13) Death of Contactor (if an individual);
- 14) If the contractor or any person employed by him shall make or offer for any purpose connected with the contract any gift, gratuity, royalty, commission, gratification or other inducement (whether money or in any other form) to any employee or agent to STC.
- 15) If the contractor shall assign or attempt to assign his interest or any part thereof in the contract.
- 16) In case of violation of terms and conditions of the tender, violation of any stator regulations, local laws etc. STC shall reserve the right to terminate the contract.

The decision of the General Manager (Admn.), STC as to whether any of the events/contingencies mentioned in aforesaid clauses entitling STC to terminate the contract has occurred shall be final and binding upon the contractor and shall be non-obligation. The

reason for the termination stated in the notice of termination shall be final and binding upon the contractor and shall be non-arbitral. The jobs left however by the contractor shall be got done at his risk and cost through the other agencies and the contract shall be determined accordingly.

17) If the Bidder deliberately gives wrong information in his tender, is liable to rejection at any stage. In such cases the deposited dues with STC shall be forfeited by the Corporation

27) CLEARANCE OF SITE

The contractor shall have to remove all malba and other unwanted material from site of work before handing over the installation to the STC. The work shall not be treated as complete in all respects unless these requirements are fulfilled by Contractor. In the event of contractor failing to do so, the STC shall have right to get the site cleared at Contractor's cost.

28.) WORKING SCHEDULE

Normally the work will be carried out during working hours however for early completion of the work , the contractor may request STC for allowing extra hours during day, night, Saturday or Sunday including holidays.

FINANCIAL TERMS AND OTHER TERMS

1.0 CONTRACT SUM

1.1 The Term Contract Sum” means: - This is turnkey basis contract. The cost of the work arrived at total cost of SITC (Supply , installation, testing commissioning) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) , on turnkey basis in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi. The decision of L1 in this tender shall be taken including cost of AMC. The AMC contract shall be optional and separate after expiry of defect liability period.

1.2 Contractor shall strictly conform to the specifications, schedule of rates, general and special terms and conditions if any, and any other matter contained in the tender documents issued by the STC.

1.3 The value of estimated cost, Earnest Money and Performance Guarantee, Security Deposit are as follows:

- | | | |
|-------------------------------|---|------------------------------------|
| A) Earnest Money | : | Rs 3,25,000 |
| C) Performance Bank Guarantee | : | 5 % of awarded value as per format |
| D) Security Deposit | : | As per details below |

2.0 SECURITY DEPOSIT (S.D.)

2.01 The successful bidder will have to deposit a security amount @ 10% of the contract value through DD/ Bankers cheque, in favour of The State Trading Corporation of India Ltd., Payable at Delhi within 15 days from the letter of intent or work order issued from STC. Amount of EMD already deposited shall not be adjusted in this Security deposit amount. EMD will be refunded on request.

2.02 Unless otherwise specifically required to be retained / forfeited by STC in part or full, the security deposit shall be refundable on the request of the contractor after satisfactorily completion of the free warranty period (Defect liability period) of 12 months to the satisfaction of the STC.

2.03 If the contractor fails and neglects to observe or perform any of this obligation the contract it will be lawful for the STC to forfeit either in whole or in part, at its absolute discretion, the security deposit furnished by the contractor.

2.04 No interest shall be payable on such deposit.

3.0 PERFORMANCE BANK GUARANTEE (PBG)

The bidder shall guarantee among other things, the following:-

- (a) Quality ,Strength and performance of the material used.
- (b) Safe electrical and mechanical stress on all parts used under all specified condition of operation.
- (c) Satisfactory performance during the work execution period

The bidder shall submit an irrevocable performance guarantee amount which will be 5 % of awarded value in addition to security deposit against the proper performance of the equipment/ material. The performance guarantee amount will have to be deposited within 15 days of issue of detailed award letter in the form of DD/ Banker' cheque. The performance bank guarantee amount will be valid up to the completion date of project plus 60 days beyond.

4.0 WORK OPEN TO INSPECTION

All work under or in course of execution or being executed in pursuance of the contract shall at all times be open to inspection and supervision of the Engineer-in-charge and his authorized subordinates, and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge or his subordinate to visit the works shall have been given to the contractor, either himself be present to receive order and instructions, or have a responsible agent duly accredited in writing, present for that purpose. Order given to the contractor's agent shall be considered to have the same force as if the same had been given to the contractor himself.

5) REJECTION OF DEFECTIVE MATERIAL

5.1 If on test ,any portion of the "Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) , or their accessories are found to be defective or not fulfilling the intent or the meaning of the specifications, the same shall be replaced with a new one in case of mandatory supplies (

as per scope of supply) OR be repaired or rectified in case of any other accessories either during or after the completion of the work but before the expiry of defect liability period to the entire satisfaction of STC , at no cost to STC.

5.2 In case the contractor fail to remove the defects, within 5 days, STC reserves the right to take necessary remedial measures through other agencies and all expenses thus incurred would be recovered from the contractor.

6) APPROVAL OF MATERIALS

All materials articles and workmanship shall be subject to the approval of the Engineer-in-charge.

7) CONTRACTOR TO DEPLOY LABOUR AND MATERIAL

The contractor shall deploy at his own cost all labor and all consumable material tools and plants, appliances, implements, ladders, tackle, scaffolding etc. requisite for the proper execution of the work and whether included in the specifications or other documents forming part of the contract or referred to in the conditions or not, or which may be necessary for the purpose of entirely satisfying the engineer-in-charge.

The work is to be carried out as per the specifications in the tender and relevant standards.

The material should be got approved before start of work.

All the equipment/material used shall be one of the stipulated makes in order of preference as per approved list of material.

Agency will be responsible to test & commission the entire installation .The work shall be executed without any loss/damage to the STC's properties.

8) CERTIFICATION OF COMPLETION

The work shall not be considered as completed until the Engineer-in-charge has certified in writing that the works have been completed and the guarantee period shall commence from the date of such certificate after handing taken over by STC. Partial completion will not be issued.

9). TIME AND EXTENSION FOR DELAY

If in the opinion of the Engineer-in-charge the works is delayed by:

- a)** Force majeure
- b)** Reasons of civil commotion, location combination of workers on strike or lock-out affecting any of the building trades;

c) In consequence of the contractor for not having received in due time necessary instructions from the Engineer-in-charge for which he shall have specifically applied in writing.

d) The Contractor shall immediately give notice thereof in writing to the Engineer-in-charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works

Request for rescheduling of date of completion and extension of time, to be eligible for consideration, shall be made by the contractor in writing immediately after the happenings of the event causing delay. The contractor may also, if practicable, indicate in such a request the period for which extension is desired.

(e) In such case, the Engineer-in-charge may give a fair and reasonable extension of time and reschedule the completion date. Such extension shall be communicated to the contractor by the Engineer-in-charge in writing within 10 days of receipt of such a request.

(f) Time extension shall be sole prerogative of STC and no claim of contractor shall be entertained if time extension is not granted.

10). COMPENSATION FOR DELAY

If the contractor fails to maintain the required progress as mentioned in appendix or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the STC on account of such breach, pay as 2% per week up to maximum @ 10 % of the delayed part of work as compensation or penalty.

11.0 PAYMENT

(a) No advance payments shall be made to the contractor. Payment shall be released on pro rata basis after supply, installation testing, commissioning of the equipment. Final payment shall be made only on the basis of detailed measurements on actual basis considering completion of the project. Payment to the contractor shall be made through NEFT mode only for which Bank charge necessary shall be borne by the contractor.

- (b) Final payment shall be released as per recommendation of Engineer in charge / competent authority and deductions of statutory dues and as per the stauts of works carried out.

12. SUBMISSION OF BILL:-

A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge for all the works executed in the previous months, and the Engineer-in-charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified and the claim as far as admissible to be adjusted.

13) MEASUREMENTS

Measurements shall be in metric system and running account bills as per schedule of rates shall be prepared and submitted for the work done based on joint measurements

14.0 RATES

14.01 The tender rates shall include the cost of materials, labour, installation, testing, commissioning, loading, unloading, shifting, supervision, tools & tackles, transport, all taxes, excise duty and other levy, contingencies, breakage, wastage, sundries, scaffolding etc. and maintenance during defect liability period for one year for complete installations of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie, DFMD(Door Frame metal detector) ,, in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi, Whether specifically mentioned or not. The cost of AMC (annual maintenance cost) is also to be mentioned .

14.02 If the rates of any item(s) is/are left blank by the bidder, the same shall be treated as zero and it will be presumed the bidder has already accounted the rates in other items against the blank items and the contractor shall have to carry out the that item work within stipulated cost.

14.03 TAXES & DUTIES

The contractor shall also include in his price all taxes, duties or other levies (viz. excise duty, custom duty, VAT, works contract tax, octroi, insurance etc.) which are legally levy-able works. The services tax shall be payable extra by STC as per extant rules. The prices are contractor and fixed during the currency of contract.

However, in case of any variation in Tax or levy is imposed by statutes, after the last date of submission of tender, the contractor thereupon shall have to pay necessarily pays such

revised taxes levies The same shall not be reimbursed by STC except service tax. However variation in service tax shall be paid as per extant rules by STC.

15.0 DEVIATION/VARIATION EXTENT/EXTRA ITEMS/SUBSTITUTED ITEMS AND PRICING:

15.01 GENERAL

The Engineer-in-charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons provided the same are recorded in writing and proper approval is obtained thereof and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same condition in all respects including price on which he agreed to do the main work.

15.02 DEVIATION IN QUANTITY

STC reserve the right to order the contractor to SITC of the some equipment mentioned in contract up to a value not exceeding $\pm 15\%$ of total contract value, on the same rates, terms and conditions. The order for enhancing the quantity will be placed latest within 1 month from the date of completion of the project.

16) DRAWINGS, MAINTENANCE MANUALS ETC.

On the award of work, the contractor shall immediately proceed with the preparation of General Arrangement drawings, single line diagrams, schematic for the project, detailing the equipment that are to be installed and the ancillary works that are to be carried out. Four sets of all such working drawings shall be submitted to the Engineer in charge, for his approval to ensure that the works will be carried out in accordance with the specifications and drawings, including such changes as may have been mutually agreed upon. All the drawings shall be received by the STC for his approval, within 10 days of the award of work. The approval of the drawings by the STC representative shall in no way relieve the contractor from his obligations to provide a complete and satisfactory (SITC) of Supply,

Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie, DFMD(Door Frame metal detector) ,, in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi as per intent and purposes as laid down in the specifications, any omissions and/or errors shall be made good or rectified whether or not the drawings are approved prior to the completion of the work the contractor shall furnish to STC, Four sets of a comprehensive manual, describing all components, furnishing list of installation for the operation and maintenance of the (SITC) of complete system.

Successful contractor after receipt of order must furnish detailed bar chart showing various activities with respect to time and he must organize co-ordination meeting at site to review the progress of his work.

17) AS BUILT DRAWINGS

On completion of the work in all respects, the contractor shall supply 4 sets of as built drawings indicating the completed work with detailed specifications used for various equipment as to the satisfaction and verification of the Engineer in charge. Final bill will not be paid for non-submission of the same.

18) TEST & INSPECTION

- (a) Before the dispatch of the material to STC, the contractor shall inform STC that the material is ready for inspection. The contractor shall arrange the inspection at the venue as indicated. After the detailed checking/ testing in appropriate laboratory of the material and consequent approval of the testing Engineer as per the standard test procedures laid down in the IS / relevant standards thereafter as per instructions of STC Engineer. The inspecting officer shall inspect the material as per the technical specification of the tender document. Partial inspection of the material will not be entertained. Once the material is inspected and cleared for dispatch by inspecting engineer, the contractor shall arrange to deliver the same material at site in intact condition. The poor quality of material shall be rejected. However such tests at any laboratory during any stage of contract period does not absolve the responsibility of the contractor for proper functioning of the material during execution and afterwards also.

- (b) All the cost including travelling ,lodging, boarding of inspecting engineer will be borne by the supplier/contractor. The entire test either on the field or outside concerning the execution of the work and supply of materials by the contractor shall be carried out by the contractor at his own cost.
- (c) The work is subject to inspection at all times by the STC and or its authorized representative. The contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this tender. The technical documents will be furnished to him during the performance of the work and the relevant codes of practice.
- (d) The contractor shall provide for purpose of inspection access all tools and gazettes required for inspection.
- (e) All results of inspection and tests will be recorded in the inspection reports. Performa of which will be approved by the STC. These reports shall form part of the completion documents.
- (f) Any work not conforming to the execution of drawings, specifications or codes shall be rejected forthwith and the contractor shall carry out the rectification at his own cost.
- (g) STC reserve the right to waive off such inspections and may accept the test reports also if available from genuine laboratory / established labs for the tests which are not feasible to carry out.

19) GUARANTEE

The contractor shall guarantee that all the equipment, materials and components supplied, fabricated, designed and installed by him shall be free from defects due to faulty design, material or workmanship, that the Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie, DFMD(Door Frame metal detector) ,, in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi shall perform satisfactorily specifically the successful performance of the system.

The period of the guarantee shall be (12) twelve months from the date of handing over the complete work. During this period any or all components /equipment pertaining to cameras found to be defective shall be replaced with a new one and with regard to other defects the same shall be repaired/rectified and any shortcomings found in the system as specified

shall be removed at no extra cost. The contractor shall provide the necessary personnel and tools for fulfilling the above guarantee.

If the above is not carried out within a reasonable time, then STC may arrange to do the same at the contractor's risk and cost, without prejudice to any other rights.

20) PAINTING

All equipment/ancillary items, supports, clamps, saddles etc. will be painted in approved manner, using colors scheme as approved by the STC.

21) SAFE CUSTODY AND STORAGE

Safe custody of all machinery and equipment supplied by the contractor shall be his own responsibility till the final taking over by the employer. The contractor should, therefore, employ sufficient staff for watch and ward at his own expenses. STC may, however, allow the contractor to use the temporary storage, of his equipment if such spaces are ready and available.

22) INTERPRETATION

In interpretation of specifications, the following orders of decreasing importance shall be followed:

1. Schedule of quantities
2. Technical specifications
3. Schedule of Fiscal aspects
4. Special conditions of contracts
5. General conditions of contract

Matters are covered by the specifications given in this contract, as a whole shall be covered by relevant and latest Indian Standard codes/CPWD code in case of any disputes. If such codes on a particular subject have not been framed or crossed with the specifications of this tender, the decision of the STC shall be final and binding.

23) Comprehensive Operation & Maintenance during Defects Liability Period

A) COMPLAINTS

The contractor shall receive calls for any and all problems experienced in the operation of the system installed under this contract, attend to these within 4-5 hours of receiving the complaints and shall take steps to immediately correct any deficiencies that may exist.

B) REPAIRS/REPLACEMENT

In case any defect is observed pertaining to cameras or other equipment /component, the same shall necessarily be required to be replaced with a new one whereas in cases of any other defect, immediate service, repairs and maintenance shall be carried out within the defect liability period. The period for replacement of defective part is 5 days else STC may take the works through any other agency at the risk and cost of the contractor.

The replacement parts and labour shall be supplied promptly free of charge to STC.

C) Un-Attending Defects

If the contractor does not repair the defect as indicated in clause B within the stipulated time asked by the Engineer in charge, STC shall be free to get the repairs done at the risk and cost of the Contractor, through the dues pending with STC or any other means possible.

D) Operation of system

The operation of the complete system during the first four months of defect liability period shall be carried out by contractor through their trained man power, who will train STC personnel during this period. All the statutory liabilities like payment of minimum wages, PF, ESI etc. shall be borne by the contractor. There must be at least one Engineer for supervision and coordination and sufficient no. of trained man power for assistance. The contractor shall be bounded by the terms and condition of this contract mentioned in this document.

(E) Comprehensive Annual maintenance :- The firm has to offer CAMC for a period of three years which will start after the expiry of defect liability period of 12 months . STC reserve the right to award AMC. The terms and conditions of AMC are described separately.

24) SCAFFOLDINGS

The contractor shall allow the usage of the scaffoldings etc. for the inspections and also to the other agencies employed by the STC for execution of other works in a proper manner. No charge shall be made by the contractor to other agencies for the same.

25) The tendered rates shall be inclusive of all necessary items required to complete the work whether mentioned or not.

26) The equipment and materials to be supplied shall confirm minimum to the technical details of the material attached with the tender.

27) Certificate of inspection – the Contractor shall obtain and deliver to the STC,

all the certificates of inspection and approval by the local statutory authorities concerned (if required), at site before putting the system into operation. The inspection fee shall be paid by the contractor. License fee will be paid by STC.

28) DEFECT LIABILITY PERIOD

The contractor shall guarantee the installation for a period of 12 months against defective materials and workmanship from the date of taking over by the STC and shall rectify or replace the defective material or workmanship without any extra cost to the STC as provided under the terms of the contract /Tender document without any delay. If the contractor fails to attend the defects within the period as asked by STC, then the STC has right to get it done at the risk and cost of contractor without giving any further notice. Effective date of completion of work shall be considered after handing over of the entire installation of STC even if, the equipment are installed and put into use in phases accordingly the defect liability period shall start only from the date of completion and taking over of the entire installation by STC.

29) All Internal & External Electrical/Mechanical/Civil works etc., for proper installation of all the equipment is under contractor's scope and it should be executed as per CPWD specifications stipulated and/or general specifications for works of and to the entire satisfaction of the Engineer-in-charge by the contractor without any extra cost to STC.

Chief Manger Elect.)

SCHEDULE OF FISCAL ASPECT

1	Earnest money (E.M.D.) to be deposited	Rs. 3,25,000=00
2)	Time of completion	2 months from the date of issue of LOI
3)	Date of commencement	From the date of issue of LOI
4)	Compensation for delay (Liquidated damages)	2% per week for the delayed section, subject to max. of 10% of contract value
5)	Security Deposit	10 % of the value of work done within 15 days from L.O.I.
6)	Performance Bank Guarantee	5% value of awarded value within 15 days from date of L.O.I.
7)	Release of Security deposit	After satisfactory expiry of Defect Liability Period of 12 months
8)	Defect Liability Period	12 months from the date of completion and handing over.
9)	Terms of payment	The payment shall be made on pro rata basis after successful supply, erection, testing, commissioning of the CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie, DFMD(Door Frame metal detector).

Scope of Supply and work

1. The contractor is required to complete the work of Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS (Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD (Door Frame metal detector) ,on turnkey basis, in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi
2. The contractor is required to supply the items as detailed below. However it is to be noted that STC reserve the right to alter the quantum of work by $\pm 15\%$ depending upon the site requirement on same rates terms and conditions on pro-rata basis.
3. Manufacturing Authorization from CCTV & X ray Baggage System, OEM's is must for this particular Tender.
4. Proof of concept/Demo may be asked during technical evaluation and if the demo is not found as per submitted documents, STC reserve the right to reject the bid.
5. The proposed make should comply to the other tender technical specification also, if found non- adherent to the tender conditions even after awarding the work, the contract of the contractor shall be terminated without any notice and the EMD/ Dues to STC shall be forfeited and the contractor shall be banned/black listed . The Proposed CCTV cameras and VMS should be from same make
6. Offered cameras and VMS software repair/troubleshooting shall be supported from OEM's India office, the letter stating the same from OEM's with service centre address shall be submitted.
7. The camera and VMS OEM must have its own office & service and support centre in India registered under the Indian companies act and in operation for period of minimum three years as on 31/03/2015. Copies of company incorporation certificate shall be submitted.

8. The Video Management software and the Cameras should be from the same OEM for seamless integration. (*Mandatory*) so as to avoid compatibility issues of all equipment with each other.
9. VMS (Centralized Software) should have the capability of being scalable and can add up to 250 Cameras (For future expansion and for Viewing and recording) if required.
10. Offered camera make and VMS software combination shall be installed, commissioned and proven for at least one year (from completion) each with more than 100 cameras on at least two sites in India. PO copies on OEM (from end customer or SI) & Performance letter stating the same by two end customers shall be submitted as PTR (Proven Track Record) criteria.
11. The 'Make' of the camera & VMS offered must have installed a base of at least 1000 nos. of IP cameras in the public safety domain in India as on 31/3/2015. The bidder must provide a certificate of OEM with supporting PO's to this effect.
12. Offered camera models and VMS software must be listed on ONVIF website for ONVIF Profile S conformance required for interoperability of all the devices. Print from ONVIF site shall be submitted which can be verified during evaluation.
13. The Bidder may be the X Ray manufacturer for which prices are quoted on the Price Schedule, certifications ISO/AERB/CE/CB should be attached along with the technical bid.
14. X Ray OEM should have its presence in India through a Legal Entity which must be established by attaching Certificate of Incorporation, TIN No., PAN no. etc.
15. X Ray OEM should have its service engineer on its own pay-roll working in India.
16. X Ray OEM should have its service center in any Metro city/Delhi-NCR
17. X Ray OEM should have ISO certification valid as on the date of submission of bid.

18. Project is on turnkey basis. The contractor shall have to supply all the equipment necessary for SITC of CCTV surveillance system including IP cameras (PTZ, Box camera, Dome Camera), Video management system software and hardware, Full functional key board with variable speed joysticks (01) No., Video management storage, Network monitoring software, X Ray BIS (Baggage Inspection system), HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD (Door Frame metal detector), in Jawahar Vyapar Bhawan, 1-Tolstoy Marg, Delhi, including all Electrical, mechanical works as required at site as per instruction of Engineer in-charge. The gate on the periphery of the JVB on Janpath is named as "A" gate and cyclically naming the gates towards gates at Tolstoy Marg as B gates onwards. The firm is advised to survey the building keenly before quote. STC shall not be responsible for any error of names or locations or measurement in the accessory items thereafter.

19. **The Mandatory quantities are as under:-**

(a) CCTV surveillance system – **Mandatory items**

S.no	Item description	Qty.	Location
1	SITC of 2.1 MP PTZ camera as per technical specifications	08	-Gate A,B,D, -All four corners) -Top of the building
2	SITC of 2.1 MP full HD Fixed box camera as per technical specifications	14	1. Parking area -basements 2 UG water tank area near SBI bank 3. Entrance of executive lift area in basement 4. X BIS machine (with back light facility)-3 Nos. 5. Chairman's lift passage (G floor) 6. EPABX room

			7. Control room for security 8. Reception with back light 9 10 th floor
3	SITC of IP based fixed Dome camera 2.1MP as per specifications	30	01 cameras each on alternate floor covering lift waiting area , (A wing -5 floors + 4 th floor annexe =06) (B wing - 9 floors + Canteen + main 10 th floor+ 10 th floor annexe =12) (C wing -23 floors =12 camera)
4	SITC of IP based fixed Dome camera 2.1MP as per specifications	2	Common area as below -Reception area -Centre of lobby
5	SITC of Network Video management system software and hardware with 100 camera licence	1	
6	SITC of Full functional keyboard with variable speed joystick controller compatible with above mentioned matrix controller server.	1	
7.	SITC of video management storage server-for 30 days	1	
8	SITC of 42 inch high	2	

	resolution colour LED monitor for matrix view dedicated to view camera inputs		
9.	SITC of 22 inch high resolution colour LED monitor for NMS view	1	
10	Network monitoring system software server	1	
11	ON LINE UPS –6 KVA rack mounted –(for 30 minutes back up time)	01	
12	Supply and installation of Rack 36 u floor mounted for control room equipment.	01	
13	Split Air Conditioner 2 TR for control room	01	
14	Workstation	01	

(b) Other safety equipment - **MANDATORY**

S.no	Item description	Qty.	Location
1	SITC of Hand held Metal Detector (4+1 standby)	10	For utilization -10 for 2 EACH on each gate. 2 shall be used as standby
2	SITC of X Ray baggage Inspection system	03	Gates for STC in JVB
3	SITC of Multi-zone	3	Shall be deployed at 3 gates in STC area

	DFMD (Door frame Metal Detector) for Main reception and back side entrance(C wing) on ground floor		
4	SITC of Hand held Walkie-talkie sets with accessories	8	6 shall be utilized by safety officers and their staff and 2 shall be put as standby

(c) **Accessory items** – Accessories required for installation of mandatory items but not limited to the following with approved make as under. if the accessory needed is not covered as under , the bidder shall have to take prior permission from STC to use that accessory in STC. The quantities have to be decided by the bidder for proper installation of systems.

Sr. No.	Particulars
1.	SITC of 24 port managed core 2 switch 10/100/1000 for control room with 2 SFP ports fully populated (with 2 SFPS)
2.	SITC of POE switch 8 ports fully populated.
3.	Supply and installation of Rack 36 u floor mounted for control room equipment.
4.	Supply and installation of Rack 6 u.
5.	SITC of unarmoured power cable 3 core ,1.5 sq.mm
6.	SITC of 32 mm PVC conduit
7.	SITC of cat 6 cable
8.	SITC of cat 6 I/O face plate & box for cable termination
9.	SITC of cat 6 patch cord (2 mtrs.)
10.	SITC of Junction box for our door camera
11.	SITC of Hanging down pole with 1/1 base plate for CCTC cameras
12.	SITC of Armoured 6 core multi's FO cable

13.	SITC of Media converter.
14.	SITC of Light Interface Unit (LIU)
15.	SITC of Fibre patch cords.
16.	SITC of Single mode gigabit SFP module
17.	Supply and installation of Pole 6 mtr height
18.	SITC of UHF Static Base sets with antenna, battery and accessories.

20. Other conditions :-

1. The installed system should have a sufficient memory to record and preserve the data for at least 1(one) month before and the live coverage of the events should be appeared on 02 nos. of 42" HD LED monitor. The configuration should have provision of at least (04) four Picture in Picture (PIP) on each screen simultaneously.
2. Contractor shall also supply other equipment including cables & isolating switch necessary to operate the system, necessary brakes and limit switches, all other protective devices including switch, fuse starters etc, all rigid/ flexible conduit, ferrules, lugs, glands, terminal blocks cable clamps general purpose/ flexible cables automatic leveling device and other misc. items are required. All necessary insulated wiring in conduits or tubing together with necessary fittings, metal boxes, through and ducts, trailing cables, shall be supplied and installed by the Contractor in conformity with the Indian Electricity Rules or IS Codes as applicable. System should be capable of withstanding +/- 10% voltage fluctuation
3. The contractor shall supply UPS (Un-interrupted power supplies) of 6 KVA on line to preserve the data for 1 hour duration in case of power failure
4. The control room of the CCTV system shall be located on the ground floor of the Jawahar Vyapar Bhawan. The contractor is required to take all measurements like cable lengths, configuration, and arrangement other equipment's for the purpose. The contractor shall have to arrange all other accessories required for the functioning of the control room at their own cost.
5. The contractor is required to complete the work as per the bill of material,
6. Contractor may be asked to submit the VAT bills for cross checking the genuineness of the material and the contractor has to submit if asked so, failure in doing so shall be deemed as fraud purchase and shall not be allowed to continue the work

7. The consignee of the material shall be the Chief Manger (Electrical), STC of India Ltd., Jawahar Vyapar Bhawan, New Delhi. The contractor shall ensure the safety of the material after delivery to the site.
8. The technical speciation must be followed for every make offered. However for the items whose technical specifications have not been covered in tender documents, CPWD specifications shall be followed or otherwise the quality shall be as per direction of Engineer in charge.

TECHNICAL SPECIFICATIONS

GENERAL SITE CONDITIONS:

Max. Ambient Temperature:	50 degree C (Designed)
Min. Ambient Temperature:	4 degree C
Max. R H	: 97%
Min. R H	: 30%
Location of site	: Jawahar Vyapar Bhawan, 1-Tolstoy Marg, New Delhi

1. Inspection of Site :

The bidder should inspect and examine the site and its surrounding and shall satisfy as to the nature of the ground and sub soil, the quantities and nature of work, materials necessary for completion of the work and their availability, means of access to site and in general to obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his offer. No extra claim consequent on any misunderstanding or otherwise shall be allowed.

2. (A) Design Concept

1) IP CCTV SURVEILLANCE SYSTEM

(i) DESIGN CONCEPT:

- The entire IP surveillance system is designed to control and monitor the different segments of the Jawahar Vyapar Bhawan. The Tentative locations details of the location for proposed set up of various CCTV cameras are elaborated in separate sheet, However STC reserve the right to alter the location if so desired without any extra cost to STC.

THE Product brochure of the CCTV Surveillance system which compiles the technical specification mentioned in the tender document and the same should be submitted along with the bid, signed and stamped with the OEM. Non submission of the above shall call the rejection of the bid.

- There are three types of cameras shall be installed to monitor the movement of the people/vehicles as follows:

- IP Box type camera

- IP PTZ camera
- IP Dome camera
 - All cameras shall be true IP camera.
 - All outdoor cameras shall be in IP-66 housing.
 - All outdoor items for cameras like JB's, power supply, media convertor etc. shall be in water proof and dust proof housing (IP66 or higher).
 - The bidder shall have to laid down LAN network to extend the IP CCTV connectivity to central control room
 - Material needed for UPS Power supply for LAN network shall be arranged by the contractor

(B) Detailed specifications

(i) IP CCTV SURVEILLANCE SYSTEM:

- Transmit and Receive H.264 and MJPEG simultaneously-4 Video and bi-directional Audio.
- Video and alarm management software under one single front end and should be on open platform with support to renowned IP camera brands
 - Support for multi user and multi user group environment in addition to user hierarchy
 - System should allow to be used as a distributed or central architecture with support to any number of cameras and any number of clients that may be added in future.
 - System Guarantees Bandwidth & Frame rate control.
 - Provides Activity Controlled Frame rate, which in turn reduces the Bandwidth and the Storage requirements.
 - Provides Broadcast quality Video across IP network including Internet.
 - Provides multiple failover and network resilience.
 - Provides real time recording at 25fps with no frame loss.
 - Provides PTZ Camera Controls & Binary INPUT/OUTPUT controls.
 - Supports Multiple IP Video Streams.
 - Secured recording for evidence purposes and user authentication to protect data integrity.
 - Video Stream bit rate selectable from 32 to 4096kbps or better
 - All the IP cameras shall have SD card slot for recording in SD card when network is down/fail.

(ii) Specifications:-

(a) IP PTZ Camera 2 MP (Outdoor Type)

IP PTZ Camera with HD1080P 2.1MP Resolution 20x Optical Zoom, Day/Night, WDR		
Sr. No	Specification	Description
1	Image sensor	1/2.8" or bigger Progressive scan CMOS sensor with WDR support
2	Resolution	1920x1080p
3	Illumination	Colour-0.5 Lux @30IRE, Black & White- 0.05 Lux @30IRE
4	PAN	360deg endless, PAN speed up to 400 deg/s or better
5	Tilt	200 deg, Tilt speed up to 400 deg/s or better
6	Zoom	20x Optical, 10x digital zoom (Motorized 4.7mm-94mm)
7	Signal to Noise Ratio	>= 50dB, Back light compensation ON/OFF selectable
8	Compression	Dual H.264 compression standards.
9	Day/Night Camera	Auto day/night
10	FPS	Min 25 Frames per second for both the streams with Full HD @ 25FPS @ H.264 + D1 @ 25FPS @ H.264 on two streams respectively
11	Shutter speed	1 s to 1/10,000 or better
12	streams	Dual H.264 streams
13	Bit Rate	64Kbps to 8Mbps. Camera should able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate. Shall work on less than 3Mbps average for Full HD @ 25FPS @ VBR
14	Streaming	Camera should support unicast and multicast streams
15	Presets	256 preset positions
16	Privacy Masking	Required
17	Web interface	Web interface to configure and control
18	Text superimposing	Super impose the title and date & time on the video
19	Audio	Full Duplex Bi-directional
20	Alarm input	One Dry alarm input & Output
21	Edge Storage	Provision for 64GB SD Card.
22	Ethernet, Network protocols	10/100 Tx Auto sensing(half/full duplex), 802.3af PoE , IPv4/v6, SNMP, IGMP, DHCP.iSCSI
23	Discovery Interface	OEM interface to detect the cameras automatically and configure network settings.

24	Housing	vandal resistant Aluminum enclosure with IP66, IK 10, Sunshield, built in Heater & Blower
25	Power requirement	24V AC or PoE++ power supply for camera, Heater and Blower as per manufacturer standards.
26	Operating Temperature	0 to 50 C Degrees
27	Operating Humidity	20 to 80% RH non- condensing
28	Regulatory Approvals	FCC,CE, RoHS, UL/EN
29	Manufacturer Warranty	Minimum 1 year

(b) 2.1 Mega Pixel Full HD1080 Fixed (BOX) Camera Specifications

2.1 Mega Pixel Full HD1080 Fixed (BOX) Camera Specifications.		
Sr.No.	Specification	Decription
1	Image sensor	1/2.8" or better Progressive scan CMOS sensor with WDR
2	Resolution	1920x1080p
3	Mega Pixel	2.1 Mega Pixel Full HD
3a	Lens	Lens 8 -50 mm, 3MP, Autoiris, IR Corrected
4	Minimum illumination	Colour-0.5 Lux @301RE, Black & White-0.5 Lux@301RE
5	Signal to Noise Ratio	=50dB, Back light compensating ON/OFF selectable
6	Compression	Dual H.264 compression standards.
7	Lens mount	CS/C type
8	Day/Night camera	Auto day/night configuration
9	FPS	Min 25 Frames per second for both the streams with Full HD @ 25FPS @ H.264 + D1 @ 25FPS @ H.264 on two streams respectively.
10	Shutter speed	1 s to 1/10,000 or better
11	Tamper Detection	ON/OFF

12	Bit Rate	64Kbps to 8Mbps. Camera should be able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate.
13	Streaming	Camera should support unicast and multicast streams
14	Web interface	Camera should have web interface to configure and control
15	Text superimposing	Super imposing the title and date & time on the video
16	Alarm input	One Dry alarm input & output
17	Edge Storage	Provision for 64GB SD Card
18	Ethernet, Network protocols	10/100 Tx Auto sensing (half/full duplex), 802, 3af class 3 PoE, Ipv4/v6, Unicast, Multicast, RTP, TCP,UDP,HTTP,IGMP,ICMP,DHCP,DNS, ONVIF, SIP
19	Discovery Interface	OEM interface to detect the cameras automatically and configure network settings.
20	Housing	Vandal resistant Aluminium enclosure with IP66, Sunshield, built in Heater & Blower
21	Power requirement	PoE and Local power supply for camera, Heater and Blower as per manufacturer standard.
22	Operating Temperature	0 to 50 C Degrees
23	Operating Humidity	20 to 80% RH non-condensing
24	Regulatory approvals	FCC, CE, RoHS, UL/EN

(c) IP Based fixed Dome Camera

2.1 Mega Pixel Full HD1080 Fixed Dome Camera Specifications.		
Sr.No	Specification	Description

.		
1	Image sensor	1/2.8" or better Progressive scan CMOS sensor, WDR
2	Mega Pixel	2.1 Mega Pixel Full HD
3	Resolution	1920 x 1080 or better and camera resolution can be configurable in all standards resolutions like VGA, 4CIF/D1, HD 720p
4	Illumination	Colour-0.5 Lux @301RE, Black & White -0.5 Lux @ 301RE, IR sensitive, Back light compensation ON/OFF selectable
5	Signal to Noise Ratio	=50dB
6	Compression	Dual H.264 compression standards.
7	Varifocal lens	Verifocal 3-10mm, D/N, Motorized with auto focus and auto iris
8	Lens mont	Integrated
9	Day/Night camera	Should have Auto day/night configuration with auto AGC
10	FPS	Min 25 Frames per second for both the streams with Full HD @ 25FPS @ H.264 + D1 @ 25FPS @ H.264 on two streams respectively.
11	Shutter speed	1 s to 1/10,000 or better
12	Digital Zooming	Up to 4 X digital zoom the live video
13	Strems	Camera should have minimum dual stream, and each stream can be individually configurable, and can able to choose stream for live and recording.
14	Streaming	Camera should support unicast and multicast streams
15	Bit Rat	Camera should able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate.

16	Web interface	Camera should have web interface to configure and control
17	Alarm input	One Dry alarm input & output
18	Text superimposing	Camera should support the super impose the title and date & time on the video
19	Ethernet, Network protocols	10/100 Tx Auto sensing (half/full duplex), 802, 3af PoE, Ipv4/v6, SNMP, IGMP, DHCP, SIP
20	Housing	Vandal resistant Aluminium enclosure with IP66,IK 10 Indoor Housing
21	Power Requirement	PoE and Local power supply for camera, Heater and Blower as per manufacturer standard.
22	Operating Temperature	0 to 50 Degree C
23	Operating Humidity	20 to 80% RH non-condensing
24	Regulatory approvals	FCC, CE, RoHS, UL/EN

Network Video Management Software (NVMS)

S.No.	Minimum Functional Specifications
1	VMS Management
2	Failover Support
3	Multicasting and Multi-streaming
4	SNMPv3 Support
5	NAT Firewall support
6	Watchdog
7	Logs
8	VMS Client Viewer (Operator) features

9	Video Cart Facility
10	VMS storage
11	Video Content Analytics (VCA)
12	Hardware & Software
13	Video Standards and Formats
14	Behaviour Detection
15	PTZ Tracking
16	Tampering Detection
17	Event Generation and Receipt
18	Counting Capabilities
19	Management
20	Viewing Search Results Capabilities
21	Investigation and Forensic Analysis

Network Video Management Software (NVMS):

The Network Video Management software to be used for the system should be able to meet the following minimum functional requirements:

1) VMS Management

- i. The VMS software shall consist of an MS-SQL 2012 or better based Main Directory Database, Failover directory, Recording Server licenses, Failover recording, Digital Virtual Matrix, Incident Reports and Alarm Management, Microsoft active directory integration, SNMP traps support, Audio recording, unlimited storage licenses etc. All the related software licenses should be the part of the offered system.
- ii. Vendor should consider additional server for maintaining system administration database if required by their offered system configuration apart from recording servers.
- iii. The VMS system should be accessible from at least 25 computers from the network for system administration and video monitoring with minimum 5 simultaneous users. System administration and monitoring can be distributed depending on the sub division of the surveillance areas/zones. Even though system should allow to create

unlimited user ID's in the system. It shall also provide minimum 5 licenses for web based clients.

- iv. The VMS shall support up to 250 camera connections in single directory.
- v. The VMS Archive Server, for video, shall be capable to support and manage up to 120 cameras @ 1920x1080 @ 25FPS or 150 camera @ 1280x720 @ 25FPS. But considering the future intention to zonalise the recording not more than 90 cameras be loaded on any server during normal operation of the system.
- vi. The VMS should allow to configure automatic scheduled backup of videos from user selected cameras to specified network drive. It should also allow to configure specific timings of the day whose video need to be backed up.
- vii. The VMS shall support the group functionalities to facilitate the administrator to change the setting of all the cameras in single go. i.e. changing resolution/FPS of all the cameras in single command, changing user privileges of all the users with single command etc.
- viii. The VMS monitor application shall support Adaptive Streaming technology to minimize the decoding load on client workstations to use most advanced technology cameras including HD1080P.
- ix. Offered VMS should maintain the single centralized administration, configuration and authentication database for entire system. This functionality can either be loaded on any of the recording server or on a dedicated server. If offered software need dedicated server for this, then the same will be in vendor's scope. Specifications of administration server should be same as that of recording server except storage size.
- x. Offered VMS software and cameras must be from same make. Combination of different make for software and cameras will not be considered.
- xi. The VMS should allow to mask a specific area within the picture of any cameras in order to maintain privacy of sensitive areas within MHA without compromising the security. A privileged user should be able to unmask the view during playback or live in case of specific situational requirements.
- xii. The VMS application shall provide the facility so as any Android OS smart phone can capture the video using its in-built camera and stream it to the VMS server through 3G, 4G, LTE or wi-fi network. VMS shall have the capability to automatically popup this video and also indicate the GPS location of the smart phone. At least one license for this facility shall be supplied.
- xiii. The VMS shall provide the facility to record operator's onscreen activities by recording the same like cameras. This can be achieved using software or hardware techniques as feasible in offered solution.

2) Failover Support

- i. Synchronized Failover directory feature should be provided with the offered system to avoid the single point of failure. Also the system should sustain all its current operations i.e. Recording, playback and live video even in the event of primary as well as failover directory failure. This functionality can either be loaded on any of the recording server or on a dedicated server. If offered software need dedicated server for this, then the same will be in vendor's scope. Specifications of failover administration server should be same as that of recording server except storage size.
- ii. Recording facility should also be provided in such a way that if any one of the server fails, 10% of high priority cameras should be taken over by failover facility built within the recording system.
- iii. In addition to this facility, highest priority 5% of cameras (i.e. Entry's, Exists and other VVIP room entrances etc. as defined during detailed engineering) shall be parallel recorded on at least two recording units so as to avoid these cameras data even in case of their primary recording server failure beyond recovery.

3) Multicasting and Multi-streaming

The VMS client applications shall support IP Multicast (UDP) and Unicast (UDP) video streaming.

4) SNMPv3 Support

- i) The VMS application should support sending SNMPv3 traps for any VMS events which can be subscribed by third party SNMP software.
- ii) The VMS application shall provide support for industry standard SNMP V2.0 and V3.0 and should provide the compatibility with any SNMP application to report the status of various component of VMS system. Required interface license shall be included in the offer.

5) NAT Firewall Support

The VMS should support NAT Firewall.

6) Watchdog

- i. The VMS shall support a built-in Watchdog module
 - a) The Watchdog shall monitor operation of all services and automatically restart them if they are malfunctioning.
 - b) The Watchdog shall be responsible for restarting the application or in a last resort restart the server in case of malfunction of software components.

7) Logs

- i. The VMS application shall provide an Audit trail functionality which enables the recording of all administrator events in SQL database and can be easily accessible.

8) VMS Client Viewer (Operator) features

- i. The VMS client shall perform the following applications simultaneously without interfering with any of the Archive Server operations (Recording, Alarms, etc.):
 - a) Live display of cameras
 - b) Play Live audio
 - c) Broadcast audio to remote locations
 - d) Live display of camera sequences
 - e) Live display of panoramic camera views
 - f) Control of PTZ cameras
 - g) Playback of archived video and audio
 - h) Retrieval of archived video and audio
 - i) Instant Replay of live video and audio
 - j) Use of graphical controls (maps)
 - k) Configuration of system settings
- ii. The VMS client applications shall support any form of IP network connectivity, including: LAN, WAN, VPN, Internet, and Wireless
- iii. The VMS client applications shall provide an authentication mechanism, which verifies the validity of the user.
- iv. VMS Client MONITOR Application
 - a) The Client Monitor application shall allow for live monitoring of video and audio.
 - i). The Monitor shall enable view of up to 25 video tiles simultaneously on a single monitor.
 - ii). The IP Based VMS Shall provide more than 15 tile layouts on each of the high resolution monitors independently including below formats.
 - i. Full screen, Quad, 3x3, 4x4, 5x5, 1 + 9 (One large and 9 small view), 1+11 (One large and 11 small view), 1+12 (One large center tile and 12 small view), 1+15 (One large and 15 small view), And more
 - b) The VMS Monitor application shall allow operators to view an instant replay of any camera or audio input (microphone).
 - i. The operator shall be able to define the amount of time he wishes to go back from a predefine list or through a custom setup period.
 - ii. The operator shall be able to control the playback with play, pause, forward, and speed buttons.
 - v) The VMS Monitor application shall allow operators to add bookmarks to recorded clips of video or audio.
 - vi) The VMS Monitor application shall allow for unlimited cameras sequences, which can

be run independently of each other on either digital monitor tiles or analog CCTV monitors.

- vii) The VMS Monitor application shall allow operators to control (Pause/Play, skip forwards, skip backwards) Camera Sequences, without affecting other operators' ability to view and control the same sequence.
- viii) The VMS Monitor application operator shall be able to drag and drop a camera from a tree of available cameras into any video tile or an analog monitor icon for live viewing.
- ix) The VMS Monitor application shall support Graphical Site Representation (Maps) functionality, where digital maps are used to represent the physical location of cameras and other devices throughout facility.
 - a). The VMS Maps shall have the ability to contain hyperlinks to create a hierarchy of interlinked maps.
 - b). The VMS Maps shall be able to import maps from any graphical software supporting BMP, JPEG and/or GIF image formats.

9) Video Card Facility

- i. The offered version VMS shall scalable up to 500 cameras in single directory system considering the future expansion plans.
- ii. The system shall allow the recording, live monitoring, playback of archived video and data simultaneously.
- iii. All the cameras connected to the system should support edge based video card facility for recording.

10)VMS Storage

- i. The VMS Storage solution shall be as minimum set at RAID-5 configuration. Increase of storage
- ii.
- iii. size should not be restricted by software licensing from VMS software OEM. If the offered software restricts the storage size by VMS licensing then licenses should be provided for unlimited storage size as we intend to expand the storage size in near future.
- iv. The VMS shall be based on a true open architecture that allow for use of non-proprietary PC and storage hardware that shall not limit the storage capacity and shall allow for gradual upgrades of recording capacity

11)Video Content Analytics (VCA)

The VMS should support multi zone motion detection and Camera Sabotage / Tampering installed at various locations etc.

12)Hardware & Software

- i) The proposed solution shall not require proprietary computer, server, and network or storage hardware & software.
- ii) The hardware & software supplied by the bidder should be compatible and fully integrated with each other with enabling all the functionalities as required.
- iii) The VMS system shall be based on the latest in software programming technology Microsoft .NET frame work.

13)Video Standards and Formats

- i) The IP Based VMS shall provide file export tool for export of single frames of video in J-PEG and BMP file formats and for export of motion video files in AVI file format for transport and playback on computers utilizing a Windows environment
- ii) The VMS shall be based on high quality Dual stream H.264 compression. Combination of One stream of H.264 and one of MJPEG/MPEG-4 will not be accepted as equivalent.

14)Behavior Detection

The VMS shall support different types of behavior detection viz. multi zone motion detection and Camera Sabotage / Tampering installed at various locations etc.

15)PTZ Tracking

- i) The VMS application should support operator based PTZ tracking for Pan-Tilt-Zoom cameras with complete PTZ functionality from any client workstation GUI.
- ii) The operator shall be able to choose and trigger an action from a list of available actions included but are not limited to:
 - a. View PTZ camera in a video tile
 - b. Starting/stopping PTZ pattern
 - c. Go to PTZ Preset

16)Tampering Detection

- i) VMS should not allow the tampering of recording by any level of operator. System shall also provide the facility to trigger the alarm in case of deletion of video files from system by any manual actions.

17)Event Generation and Receipt

- i) The VMS application should support below types of alarm management in case of any event generation :
 - a. The IP based VMS shall provide alarm management module
 - b. The IP based VMS shall notify a user on any alarm set in the system
 - c. The VMS user shall be able to support multiple alarms
 - d. The VMS system administrator shall be able to set for each user the maximum alarms to be viewed at one time
 - e. It should be possible to populate the alarm on the maps indicating their actual location and current status.
 - f. It should be possible to drag the alarm related video on tile directly from the map.
 - g. It should also be configurable to popup the procedural URL/standard operating procedure for alarm handling specific to the active alarm.
 - h. Alarms should be prioritized and displayed in different color for easy understanding of operators.
 - i. The VMS user shall be able to forward alarms to other users

18)Rules Capabilities

- i) The VMS application shall support various types of rules making capabilities related to Video, Picture and Recording profiles.
- ii) The Operator should be able to select these profiles/rules and can be able to replicate for all the cameras connected to the system as per the requirement.

19)Counting Capabilities

- i) The VMS application shall support special analytics viz. people counting in the same system. This feature may be required on very few (Approx. 5%) of the cameras as directed by the authority during implementation phase of the project.

20)Management

- i) The VMS shall provide alarm management module without the need of any additional license.

- ii) The alarm management shall be able to set any monitor or groups of monitors to automatically display cameras in response to alarm inputs.
- iii) The alarm management shall be able to reset automatically or manually alarmed video.
- iv) The alarm management shall allow for multiple modes of alarm handling capability, these modes to be programmed within the same system.
- v) It shall also allow individual escalation matrix for every alarm

21) Viewing Search Results Capabilities

- i) The VMS should provide the application which should be integrated to the offered VMS and provide the below mentioned Incident Reporting and backup mechanism. Offered prices should include the price of this application.
 - a) This application should provide the facility to create the incident reports for specific incidents.
 - b) It should be possible to access recorded video within the VMS system for playback and export from this application.
 - c) It should also allow the operator to write the text, attach the snapshots, video clip, audio clip or any other type of attachment which can be used in connection with this incident and form the entire incident report.
 - d) Entire report should be archived on specific portion on the storage and should be accessible from the web browser.
 - e) It should create the library of all the reports and options should be available to search the required report by time frame, subject, report number etc.
 - f) It should be possible to send these reports by email or archived on offline media.

22) Investigation and Forensic Analysis

- i) The VMS shall provide facility to sync playback multiple cameras on single time line allowing the investigators to recreate the sequence of events.
- ii) The VMS application shall provide the facility to search the motion within specified area for a given period of time.
- iii) The VMS application shall provide a reporting utility for tracking but not limited to the following options. Video and images shall be stored with reports for documenting events.
 - a. Alarms, Incidents, Operator logs, Service requests
 - b. The Email Alert should be generated in responds to alarms triggered in VMS software and sends out email alerts to a preconfigured list of recipients.

- c. It should be possible to export the settings of various entities within the VMS i.e Archiver, Directory, cameras etc. It should be possible to print these reports.

Control Room IT Infrastructure

(a) Server: Network Video Management Server

Network video Management Server	Specification
CPU	Intel Xeon 8 CORE Processor EF-2690 or better
2 nos. Of Processor	2 (TWO)
Memory Size	128 GB (min 8GBx16 or 16GBx8 or 32GBx4 combination), 133 Mhz or higher, upgradable to 768 GB or higher
Storage Details	Hot pluggable SAS HDD 5x600 GB, 10K RPM or higher with min 06 no or higher internal Drive bays
RAID controller	SAS Raid controller with RAID 0/1/1=0/5 with 512 MB or higher battery backed cache.
Optical Drive	DVD combo drive
Chassis type	19" Rack mountable Server of maximum 2U size with Sliding rails and fittings to install into a Rack.
Power supply &FAN Redundant	Hot swappable Power supply & Fan
Network interface	Min 4 no. Gigabit Ethernet ports or more
I/O Slots	Min 6 PCI/PCIE/PCIX slots or higher.
Compatible OS	Microsoft Windows Server, LINUX
Management	OEM Server Management Software
IPV 6 compliance	The Hardware should be IPV 6 Compliant ready
Monitor & KBD/Mouse	18.5" screen & USB Keyboard & Mouse.

(b)Storage: Video Management Storage

Storage	Specification(Video Management Storage Min 30 days Backup with 24x7)
System Architecture	<p>Storage system should be based on symmetric and fully distributed grid/scale-out architecture, with linear scalability of performance and capacity.</p> <p>Storage system should support nodes with multiple CPU architectures <u>(x86, RISC) in the same grid & namespace to ensure future scalability.</u></p> <p>Storage system should support node controllers of different generations to participate in the same grid and namespace.</p>
Hard Disk type	Controller nodes should support 1TB, 4TB & 6TB, 7200RPM 3.5 SATA Hot swap disk drives, Raid 5
Disk drives	Each node should contain a maximum 12 disk drives, to minimize hot spots
Storage Nodes	<p>Storage system should scale from single node to 128 nodes.</p> <p>System should support capacity/performance enhancement with additional <u>nodes without downtime to production</u></p> <p>Storage system should distribute/load balance video files across all nodes in <u>the system</u></p> <p>In the event of addition/removal of nodes, the system should automatically <u>rebalance existing across remaining/all nodes.</u></p>
Controller Memory	Each storage node should support minimum 16GB and should be scalable to at least 32 GB
Network connectivity	Each storage node should support min. 4 Gbps aggregate Gigabit Ethernet ports and 400MB/sec aggregated network bandwidth for video streams
System Scalability/Expansion	Capacity: The storage system should support automatic scaling of <u>performance with every addition of capacity to the namespace.</u>

	Performance: The system should support automatic scaling of performance with every addition of capacity to the namespace
System Redundancies	Individual nodes should support configuration for single or two disk failures, as required. Storage node should support network port bonding and sustain port/link failures without connection loss
System management	System should support management of all nodes/controllers through a single window/dashboard
Data Access Protocol	NFSv3, CIFS/SMB
Access Control	Folder and File Level access control security for users and groups which enables only authorised user to access the video files
System Alerts	Integrated error logging and automatic email forwarding of error alerts and error display on web management console
Archiving support	Support for optional tape archiving module with drag and drop feature
Licensing	All above features (except optional tape archiving module) should be enabled and available on the storage system by default
Power Supply	Redundant power supply (230VAC, 50Hz)

Desktop: Video Management Client Access Desktop

Video Management Client Desktop	Specification
Desktop/Workstation	Processor i7, RAM 4 GB, Hard Disk 1TB, Display 18.5 Inch, Keyboard, Mouse, OS, Windows 8

Network monitoring software server

Network video Management Server	Specification
CPU	Intel Xeon 8 CORE Processor EF-2690
2 nos. Of Processor	2 (TWO)
Memory Size	128 GB (min 8GBx16 or 16GBx8 or 32GBx4 combination), 133 Mhz or higher, upgradable to 768 GB or higher
Storage Details	Hot pluggable SAS HDD 5x600 GB, 10K RPM or higher with min 06 no or higher internal Drive bays
RAID controller	SAS Raid controller with RAID 0/1/1=0/5 with 512 MB or higher battery backed cache.
Optical Drive	DVD combo drive
Chassis type	19" Rack mountable Server of maximum 2U size with Sliding rails and fittings to install into a Rack.
Power supply &FAN Redundant	Hot swappable Power supply & Fan
Network interface	Min 4 no. Gigabit Ethernet ports or more
I/O Slots	Min 6 PCI/PCIE/PCIX slots or higher.
Compatible OS	Microsoft Windows Server, LINUX
Management	OEM Server Management Software
IPV 6 compliance	The Hardware should be IPV 6 Compliant ready

6 KVA UPS (ONLINE) WITH BATTERY BACKUP FOR 30 MINUTES :

Application: Power supply requirement for IP CCTV,

: IGBT, on line double conversion

Input:

- Nominal AC Input Voltage: 1 Phase 230V AC + Neutral + Earth, 50 Hz
- Line low/ High transfer: +/- 15%
- Frequency range: +/- 5%
- Power factor: >0.9

Output

- Voltage: 220VAC/ 230VAC/ 240VAC
- Voltage Regulation: + 1%
- Frequency : 50 Hz +/- 0.1%
- Output waveform : Pure sine wave
- Harmonic distortion : < 2% (linear load) / 5 % nonlinear load
- Power factor : 0.7 to unity
- Crest factor : 3:1
- Inverter overload capacity: 110% 15 min./ 125% 10 min./ 150% 1 min./ > 150% 1 sec.
- Efficiency (AC – DC): 90%
- Bypass: Static bypass

Transfer time

- Line to battery mode : 0 ms
- Battery to line mode : 0 ms
- Line to bypass mode : <5ms synchronized with mains
- Bypass to line mode : <5ms synchronized with mains

Battery

- Battery type: SMF
- Communication interface
- Standard : RS 232 port for software interface
- Optional : SNMP

Display

- Standard: 2 line x 20 characters, Backlight LCD

- AC input voltage, AC input frequency, Battery voltage, AC output voltage, AC output frequency, AC output load %, Temperature
- UPS status (Mains fail, Individual phase fail, Battery low DC high, Overload with shut down time, Output low, Output high, Over temperature, UPS bypass)

General

- Operating temperature: 0 to 45 Deg C
- Humidity: Up to 95% RH, no condensing
- Noise level: < 60 dB @ 1 meter
- Indication: Mains ON, Inverter ON/ OFF/ Faulty, Battery level, Static bypass on, Load level, over temperature
- Audible alarm: Mains failure alarm/ Low battery alarm/ Overload and load on bypass/ DC high/ Inverter fault
- Protection: Advanced electronic protection for device safety backed with MCB's
- Parallel redundant option: Unitary/ Parallel redundant/ redundant hot standby

CAT – 6 Cable:

- 23 AWG Annealed bare solid copper, CAT-6 UTP Cable, Channel optimized to 350 MHz
- Meets EIA/TIA 568-B.2-1 Category 6 specifications, Passed UL 444 test and meets CM and CMR ratings
- Worst Case Cable Skew: 45 n.sec/100 meters
- Characteristic Impedance: 100(+/- 3) Ohms 500MHz , Tested till 700 MHz
- Conductor Annealed copper wire Diameter 0.52 mm (nominal)
- Insulation High Density polyethylene, Diameter 0.94 mm (nominal)
- Support for Fast Ethernet and Gigabit Ethernet IEEE 802.3/5/12, Voice, ISDN, ATM 155 & 622 Mbps and Broadband
- DC Resistance Max: 6.6 Ohms/100m
- UL Listed and Third Party verified by ETL to “ANSI/TIA/ EIA-568-B-2.1” specifications
- Zero Bit Error verified by ETL
- Sheath Fire retardant PVC Compound (FRPVC) Flame Rating : 60 deg. C As per UL 1685 CM
- PAIRS Colour code: Blue / White-Blue, Orange / White-Orange Green / White-Green, Brown / White – Brown

- Outer Sheath PVC compound Thickness Diameter 0.5 mm (nominal) outer diameter 6.5 mm (nominal)
- Electrical Characteristics at 20° C Input Impedance (0.772-100 MHz) : 100 + 15 Ohms
125-250 MHz) : 100 +/- 22 Ohms
- Mutual Capacitance: 5.0 nF/100m Capacitance, unbalance (Max.): 330pF/100m
- Standard length: 305 Metres (1000 ft.)

Power Supply Cable

- 3CX1.5 /2.5/4 sq mm, multi strand with standard annealed electrolytic copper conductor armoured cable/flexible cable as per IS 1554.
- Primary insulation of 85° C PVC as IS-5831Type C
- Colour code Red, Black and Green
- Inner and Outer Jacket: Extruded Flame retardant and 90° C PVC to IS 5831- Type ST2
- Inner and outer sheath - PVC Black
- Armouring - Galvanized Steel Wire/ flat as per IS-544 part I
- Armour coverage 95 %

ACTIVE NETWORK COMPONENTS

(a) Layout 3 Switch (Core Switch)

Layers 3 Switch (Core Switch)	Specifications
	<p><u>Architecture</u></p> <ul style="list-style-type: none"> • The switch shall be non-blocking in architecture and should have stand alone/stack/chassis. Shall be 19” Rack Mountable. • Shall have dual, hot-swappable AC Power supplies • Shall have 16 RJ-4S autosensing 10/100/1000 ports and 24 SFP Fixed Gigabit Ethernet SFP ports • Shall have 4 x fixed 1G/10G SFP + ports • Shall have 1 RJ-4S serial console port • Shall have 1 GB SDRAM and 512 MB flash • Shall have switching capacity of 208 Gbps

- Shall have up to 155 million pps switching throughout

Resiliency

- Shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform a single Layer-2 switch and Layer 3- router
- Shall support virtual switching fabric creation across nine switches using 10GB Ethernet Links
- IEEE 802.1D Spanning Tree Protocol, IEEE 802. Is Multiple spanning Tree Protocol
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- Ring protocol support to provide sub-100 ms recovery for ring Ethernet based topology
- Virtual Router Redundancy Protocol (VRRP) to allow a group of routers ato dynamically back each other up to create highly available routed environments.
- Graceful restart for OSPF, IS-IS and BGP protocols
- Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols

Layer 2 Features

- Shall support up to 4,000 port or IEEE 802.1Q based VLANs
- Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs.
- Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic detected, preventing loops.
- Shall support IEEE 802.1ad QinQ and Selective QinQ to

increase the scalability of an Ethernet network by providing a hierarchical structure.

- Shall support Jumbo frames on GbE and 10-GbE ports Internet Group Management Protocol (IGMP)
- Multicast Listener Discovery (MLD) snooping
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- Multicast VLAN to allow multiple VLANs to receive the same Ipv4 or Ipv6 multicast traffic.

Layer-3 Features (any additional licenses required shall be included)

- Shall have Static routing for Ipv4 and Ipv6
- Shall have RIP for Ipv4(RIPv1/v2) and Ipv6(RIPng)
- Shall have OSPF for Ipv4 (OSPFv2) and Ipv6 (OSPFv3)
- Shall have IS-IS for Ipv4 and Ipv6 (IS-ISv6)
- Shall have Border Gateway Protocol 4 with support for Ipv6 addressing
- Shall have Policy-based routing
- Shall have Unicast Reverse Path Forwarding (uRPF)
- Shall support Ipv6 tunnelling to allow Ipv6 packets to traverse Ipv4-only networks by encapsulating the Ipv6 packet into a standard Ipv4 packet
- Dynamic Host configuration Protocol (DHCP) client, Relay and server
- PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for Ipv4 and Ipv6 multicast applications.
- MPLS capability including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)
- VPLS for data centre to data centre communication at Layer 2' provides support of hierarchical VPLS for scalability

- Shall provide support of hierarchical VPLS (H-VPLS) for scalability.

QoS and Security Features

- Access Control Lists for both Ipv4 and Ipv6 for filtering traffic to prevent unauthorized users from accessing the network
- Port-based rate limiting and access control list (ACL) based rate limiting.
- Congestion avoidance using Weighted Random Early Detection (WRED)
- Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDRR) and weighted random early discard (WRED)
- IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port
- Media access control (MAC) authentication to provide simple authentication based on a user's MAC address.
- Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers
- Port security and port isolation

Management features

- Configuration through the CLI, console, Telnet, SSH and Web Management
- SNMPv1, v2, and v3 and Remote monitoring (RMON) support.
- Sflow (RFC3176) or equivalent for traffic analysis.
- Management security through multiple privilege levels with password protection.
- FTP, TFTP, and SFTP support.

- Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port.
- RADIUS/TACACS+ for switch security access administration.
- Network time Protocol(NTP) or equivalent support.
- Shall have Ethernet OAM(IEEE 802.3ah) management capability.

Environmental Features

- Shall provide support for RoHS and WEEE regulations.
- Shall be capable of supporting both AC and DC Power Inputs
- Operating temperature of 0 C to 45 C
- Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A.

(b) PoE Switch

PoE Switch	Specification
	<p>-The switch shall have 8 RJ-4S auto-negotiating 10/100/1000 PoE ports.</p> <p>-The switch shall have two 1000BASE-X SFP port in addition to above ports.</p> <p>-The switch shall support IEEE 802.3af PoE and IEEE 802.3at PoE+</p> <p>-The switch shall have minimum 65 watts for PoE Power</p> <p>-Shall support 1000 Base-SX,LX, and LX Bi-directional SFP transceivers</p> <p>-Switching capacity of 20 Gbps</p> <p>-Switching throughout of up to 14 million pps</p> <p>-1 RJ-4S console port</p> <p><u>Layer 2 Features</u></p>

- Configurable up to 8000 MAC addresses
- Shall support IEEE 802.3ad Link Aggregation Control Protocol(LACP)
- Shall support IEEE 802.1D Spanning Tree Protocol
- Shall support IEEE 802.1w Rapid Spanning Tree Protocol for faster convergence
- Shall support IEEE 802.1s Multiple Spanning Tree Protocol
- Shall support IGMP snooping for multicast filtering instead of flooding traffic to all ports, improving network performance.
- Shall support MLD snooping to forward Ipv6 multicast traffic to the appropriate interface, preventing traffic flooding.
- Shall support IEEE 802.1AB Link Layer Discovery Protocol(LLDP)
- Shall support LLDP-MED (Media Endpoint discovery) to automatically configure network devices such as IP phones.

Layer 2 and Layer-3 features

- Shall support IEEE 802.1Q with 4,094 simultaneous VLAN Ids
- shall support Voice VLANs
- Shall support gratuitous ARP to allow detection of duplicate IP addresses
- Shall supports up to 10 kilobyte frame size to improve the performance of large data transfers
- Shall support Static Ipv4/IPv6 routing, 32 static routes
- Shall support DHCP relay to simplify management of DHCP addresses in networks with multiple subnets.

Security and Qos Features

- Shall support port security and port isolation
- Shall support MAC and Port based ACLs enable network traffic, filtering and enhance network control.
- Shall support time-based ACLs to allow for greater flexibility with managing network access

- Shall support IEEE 802.1X and RADIUS network logins to control port-based access for authentication and accountability;
- Shall support MAC – Based authentication;
- Shall support strict priority queuing (SP), weighted round robin (WRR) queuing, and SP+WRR, DSCP
- Shall support ARP attackprotection feature to block ARP packets from unauthorized clients;
- Shall support DHCP snooping to block unauthorized DHCP Servers;
- Shall support STP BPDU protection preventing forged BPDU attacks'
- Shall support STP Root Guard to protect the root bridge from malicious attacks or configuration mistakes.

Management Features

- SNMP V2/V3, SSHv2, Limited CLI/Telnet, web based interface and Dual flash images;
- Ipv6 host support to be managed using Ipv6
- Shall support Port mirroring;
- Shall support intuitive Web GUI(Http/https) for easy management;
- Shall support Limited command-line interface to deploy and troubleshoot;
- Shall support management security through multiple privilege levels;
- Shall support single IP address management for up to 16 switches
- Shall support Network Time Protocol(NTP)
- Shall have an operating temperature of 0 C to 40 C Safety and Emmission;
- UL 60950/IEC 60950-1/EN 60950-1 and FCC part 15 Class A/VCCI Class A/EN 55022 Class A'

Passive Network Components

	Specifications
(a)	Fibre Cable : Fibre Cable 12 core
(b)	UTP Cable : CAT 6 cable
(c)	Power Cable : Power Cable 2.5 mm or 3.5 mm
(d)	PVC Chemicals
(e)	Flexi Pipe
(f)	Networks connector and cords
(g)	Rack 36U or 24 U ro 9 U depending on network size
(h)	Junction Box

#Technical speciation's of Rack 36 U

1. 1000mm Depth Rack-Mount Server Cabinet
2. Floor mounted server cabinet features easy to access lockable side panels and vented, lockable front and rear doors.
3. 36U of mounting capacity and 1000mm mounting depth. Top, bottom, front, and rear cable tunnels allow for easy cable routing.
4. With two 120mm cooling fans installed, plus locations for two additional sets of cooling fans
5. The mounting rails are horizontally adjustable to ensure the best fit possible.
6. 36U form factor
7. Sturdy and rugged welded frame structure
8. Excellent air ventilation design with ventilated doors, two installed cooling fans, and locations for four additional fans.
9. Top, bottom, front, and rear cabling tunnels
10. Heavy duty lockable casters make it easy to move the rack

11. Extendable landing gear allows the rack weight to be kept off the casters when mobility isn't needed
12. Removable side panels with security locks
13. 2.0mm SPCC steel vertical and horizontal rails
14. 34" chassis mounting depth
15. 597mm x 1822mm x 1003mm (WHD) external dimensions (+/- 10 %)
16. RoHS compliant
17. Construction :- Server rack Should have heavy duty CRCA sheet steel folded profile with side panels, Made of heavy duty material

Specification of Rack 6U

SI No	Parameters	Description
1	Wall Standing Rack	Rack Should be wall mounted
2	Construction	Server rack Should have heavy duty CRCA sheet steel folded profile with side panels, Made of heavy duty material
3	Doors	The rack front Door single should be perforated Hexagonal for maximum air flow the rear door should be space saving design and with the locking arrangement.
4	Top & Bottom	Rack Top and Bottom should be CRCA steel mode with cable entry Provision and glands at both side
5	Other Accessories	Rack should have fan tray in built with 2 Fan 90 CFM 230 V A/C mounting, required power distribution Unit etc
6	Earthing Provision	Rack should have earthing Provisions to protect equipment from electrical fault.
7	Accessories	6U Network Rack 19", 6U 530 mm depth rack with power strip, Cable manager

Specification of 32 mm PVC Conduit

SI No	Parameters	Description
1	Mechanical Properties	Percentage of Compression with specified load less than 25% Percentage of Compression without load less than 10% High Impact Strength Tensile Strength - 390-420 Kg./cm ²
2	Electrical Properties	Dielectrical Strength = 36 Ky/mm Specific resistance=6.1 x 10 ¹⁴ ohm cm Electric Strength = No breakdown at 2 Kv x 50 hz. For 15 minutes
3	Thermal Properties	Working Temp. = 70°C Burning rate = Self Extinguishing Flammability = UL94V-0 Flame Die out Time = Less than 30 seconds

Specification of CAT 6 I/O Face plate Box for cable Termination

SI No	Parameters	Description
1.	Features	Surface Mount Face Plate & Box with CAT6 Work Area Data I/O Outlet (RJ45) adhering to ETL Verification program for compliance with TIA568B.2-1. Category 6, TIA568.B.2-1 – 600MHz. Information Outlet should be UL Listed and I/O box should be RoHS Compliant. 568A/B configuration Be constructed of high impact with color and icon options for better visual identification. Integrated hinged dust cover using collapsible angular spring loaded shuttered technology. Face plate should be Single Gang

		square plate and Should have provision for Label
2.	Material	ABS / UL 94 V-0
3.	Port	1

Specification of CAT 6 Patch Cord (2 Mtrs)

SI No	Parameters	Description
1	Type	Unshielded Twisted Pair , Category 6, TIA / EIA 568-B.2
2	Conductor	24 AWG 7 / 32, stranded copper
3	Length	2 Mtr.
4	Plug Protection	Matching colored snag-less, elastomer polyolefin boot
5	Category	CAT 6E
6	Housing	Clear Poly carbonate
7	Terminal	Phosphor Bronze, 50 micron gold plating over selected area and gold flash over remainder,
8	Load Bar	PBT polyester
9	Jacket	PVC

Specification of Junction Box of Outdoor camera

SI No	Parameters	Description
1	Type	Weather Proof IP 65 JB made of metal/fiber, outdoor type, wall mountable, having three shelves to accommodate fiber kit, power supply, network switch etc for camera end

Specification of Armoured 6 Core Multi Fibre Optic Cable

Sl No	Parameters	Description
1	Cable Type	Suitable jelly filled 6 F Armoured optical fibre cables (multi-tube)
2	Mode	Single-mode optical fibre cable shall fully comply with the latest issue and tables of ITU-T G'652'.
3	Number of fibres Per tube:	Two; the colour of fibres order: (Blue, orange), (Green, Brown) and (Slate and white).
4	No. of tubes / colour of tubes:	3 Tubes of Blue (G652), Orange (G652), Green (G652) colour
5	No of filler tubes	3 tubes as a filler of Black colour for maintaining the circularity of OFC
6	Cable core Assembly	Primary coated fibres are placed in loose tubes, which are around a central strength member. It shall be protected by means of filling compound having properties of non-hygroscopic dielectric material and / or swelling tape.
7	secondary Protection	Loose packing within a tube, which shall be filled with thixotropic jelly, to protect primary coated fibres
8	Strength Member:	Fibre Reinforced Plastic of minimum 2 mm diameter which will provide strength and flexible enough. in order to keep the fibre strain within permissible values.
9	Filling Compound	It shall be compatible to fibre, secondary protection, core wrapping etc. (preferably thixotropic jelly). It shall be removable easily for splicing.
10	Glass / Aramid Yarn	To be used around the loose tubes as per specification for extra protection to the loose tubes.
11	Rip cord	2 numbers below the HDPE sheath.
12	Inner Sheath	HDPE of size of minimum thickness 1.8mm. It shall be circular, free from holes, joints, mended pieces and other defects.
13	Outer Sheath:	Nylon-12 of minimum thickness 0.65 mm.
14	Cable Diameter	Over all cable outer diameter shall be 12 + 0.5 mm.

Specification of Light Interface Unit (LIU)

SI No	Parameters	Description
1	Material Thickness	Material thickness should be 1.2 mm minimum
2	Splice Trays	The fiber management system should have 2 nos. of Splice Trays for 12 F and 4 nos. of splice trays for 48 F .The tray should be design in such a way that one can shift splicing module inside tray as per convince .Tray should have provisioning for including splice modules , with each module capable of splicing 12 F and each tray should be capable to hold 4 modules making total splicing capacity available to 48 F per tray
3	Arrangement of Splice Trays	The arrangement of the splice Trays inside the FMS should be such that it should be hinged to each other and open like a book .
4	Tap Trays	Top Tray should be provided with protection transparent cover which should get locked with tray .
5	Bend Radius	The splice holders in the splice tray should be at the centre .The splice trays should also have provision to route the short length fiber such as to maintain the minimum bend radius of 30 mm

6	Cable entry	Cable entry should be provided from the Rear side of the FMS.
7	Cable entry plate	Fiber Management system should be provide with detachable cable entry plate having provision with cable and strength member holder
8	Type	Fiber Management system should be Telescopic type with Front Patching only .The patch panel should be detachable type to accommodate any type of adaptors
9	Covering plate	Fiber Management system should be provide with detachable rodent protection covering plate
10	Coating	The powder coating finish should be RAL 7035 standard & thickness of powder coating should be 69-90 microns
11	Connector/Adaptor	Designed to accommodate simple SC, Duplex SC

Specification of Fiber Patch Chords

SI No	Parameters	Description
1	General	All optical fibre patch cords shall comprise of single mode 9/125 micrometre fibre with connectors at each end including dust caps shall be fitted on each connector at the assembly Cable :- 9/125 micrometre ,SM.
2	Length	Minimum – 5 metre or Higher as per requirement
3	Reinforcing material	KEVLAR (Aramid Yarn)
4	Attenuation : 1310 nm, 1550 nm	Less than 0.36 dB, Less than 0.23 dB
5	Cut-off wavelength	<= 1250 nm
6	Insertion loss	0.2 dB max

7	Type of Connectors	SC/PC ,FC/PC SC /FC ,SC/SC etc. as per actual requirement . SC to XX Duplex SM for interconnecting LAN switches via Fibre Patch panel on SMF/ SFP Module of LAN switches . Where XX may be SC/PC/LC/FC as per actual requirement.
8	Connector	Zirconia Ceramic ferrule , Pre –radiuses and pre-polished ferrule
9	Encapsulation	Epoxy type fibre encapsulation
10	End face	UPC Polishing

Specification of Single Mode Gigabit SFP Module

SI No	Parameters	Description
1	Standards	IEEE 802.3z gigabit Standards
2	Connector	Simplex LC Connector
3	Application	Long Distance Fibre Application
4	Range	Maximum 10 Km fibre optic cable distance
5	Operation	Optimal bi-directional
6	Power Supply	3.3 V
7	Wavelength	Bidirectional operation using separate transmit & receive wavelength
8	Protection	Hot Swappable

Specification of Pole 6 Mtr height

SI No	Parameters	Description
1	Pole Type	MS Poles (rust proof painted) well-polished primer polished, of minimum 6 mtr Height

Technical specifications of X ray Baggage Inspection machine

1.0 SYSTEM DESCRIPTION –

The machine should be capable of scanning Laptop Bags, Tiffin carrier, tool kits, Visitor bags and very flat objects such as envelopes.

1.1 Tunnel Dimensions -

Tunnel should be capable of scanning the baggage size of not less than 600 mm x 400 mm with variation of +5%.

1.2 Penetration –

The Penetration shall not be less than 37 mm steel plate (guaranteed)

1.3 Sensitivity –

The machine should be able to display a single insulated copper wire of 38 Gauge Wire (Guaranteed) & 40 Gauge wire (Typical). The wire gauge measured in American Wire Gauge.

1.4 Health & Safety -

Machine should be International standards including the U.S.F.D.A., Center for Devices and Radiation Health performance standards for cabinet X-Ray systems (Federal Standard 21-CFR 1020.40). also permitted by the Federal Standard. Film safety guaranteed for high speed films up to ISO 1600.

1.5 X-ray dose –

The radiation level should not exceed accepted health standard i.e., within 0.1 mR / hr at a distance of 5 cm from external housing.

1.6 X-ray beam divergence –

The X-ray beam divergence should be such that the complete image of maximum size of bag is displayed without corner cuts.

1.7 X-ray Inspection –

Facility for variable contrast should be incorporated to allow enhancement of lighter and darken portion of the image. System should have facility of variable Gamma, organic & inorganic stripping, baggage counter

1.8 Lead impregnated safety screens – Lead impregnated safety screens should be available at either ends of the tunnel.

1.9 Color Imaging –

The system supplied shall be of equal or preferable more than 3 Colors & 1 Grayscale Color Image options.

1.10 Conveyor Height –

The Conveyor height shall be in the range of 700-730 mm.

1.11 Conveyor belt Speed –

Conveyor speed shall be atleast 0.23 m/s (45 ft/min) in forward direction.

1.12 Input / output rollers system –

The input and output frame shall be provided with rollers of length in multiples of 500 mm on each side with barrier frame to prevent bags falling off.

1.13 Conveyor Load –

165 Kg distributed load (364 lbs)

1.14 Operating Temperature & Humidity –

The operating temperature should be 0°C to 50 °C

Humidity - Up to 95% non-condensing

1.15 Power Requirements & Power Conditioning –

Power Requirements shall be 220VAC: 183-253 VAC, 50 Hz. 10 Amp Max

Power Conditioning -

i) Suitable UPS for 15 minutes back up of reputed make should be provided ii) Suitable voltage stabilizer with isolation transformer of reputed make should provided to the whole XBIS

1.16 Bi-directional Scanning –

Bi-directional scanning facility should be provided without holding any switch.

1.17 Certification –

The quoted system shall have the following approvals – 1) AERB 2) CE 3) CB 4) ISO 9001 5) 3rd Party Electrical Safety Certifications

1.18 Operational Safety –

Emergency stop switch at both the ends of tunnel should be provided

1.19 User Manual –

Two sets of operator manual should be provided with the system.

1.20 X-Ray Generator -

The X-Ray generator should be of the minimum rating as mentioned below –

1) Anode Voltage -160kV – operating at 140 kV. 2) The system should operate at a voltage lesser than the maximum or rated voltage to increase the life & output of the X-Ray Generator. 3) Tube Current – Shall not exceed 0.7mA 4) Cooling - Hermetically sealed oil bath 5) Beam Direction - Vertically upwards 6) Duty Cycle – 100%

1.21 Monitors / Display Units –

The system should be able to produce clear color & Monochrome images on a 17” LCD Monitor.

1.22 Keyboard Controls – Image features should be keyboard controllable.

1.23 Zoom facility –

Zoom facility should be available to magnify the chosen area of an image up to x32 or more.

1.24 Contrast Sensitivity–

24 Visible Levels & Approximately 4096 Grey levels should be stored.

1.20 Computer Specifications -

The Computer should from a standard manufacturer (Dell, HP, Compaq) with the minimum specifications as mentioned below –

At a minimum: Processor: Intel® Core i5, 3.1 GHz, 6MB cache, Memory: 2 GB RAM at 1333 MHz Storage: 500 GB HDD, Video Card: 1 GB Video Card, Dual Digital Display, Platform: Windows® XP Pro, Backup: Uninterrupted Power Supply (Computer Operation- 20 min)

1.26 Operating Software –

The system should work on one software only. The software shall be Windows based.

1.27 Keyboard Control –

i) All operating software features should be controlled from keyboard of machine only. ii) Keyboard function should be “user friendly”

1.28 Standard Features –

The standard features shall include the following –

Automated image archiving - up to 50,000 images User-friendly Image review - for up to last 100 images System Health, Advanced continuous diagnostics High penetration function Density alert Edge-enhancement imaging
Baggage counter Color and black/white imaging Bi-directional conveyor movement Geometric image distortion correction Horizontal and vertical imaging Image annotation Manual archiving of images in bitmap format Organic and inorganic imaging Clarify feature for improved resolution and penetration Print image function Programmable penetration and contrast levels Pseudocolor and reverse monochrome Real-time image manipulation High resolution 19 in. (48.26 cm)LCD Monitors User-defined access to image archive 2X to 32X User-selectable zoom Z-number measurement

1.29 Threat Image Projection (TIP) Software –

- 1) Password Protection – All software features of machines should be ‘online” and “password” protected.
- 2) Report Facility - The system should have software controlled diagnosis report facility and the system should give printout, if printer is connected.
- 3) Rebooting – The system should not require reboot to enable / disable a software feature.
- 4) Operators training – TIP software facility should be incorporated in the offered Xray machine to assist supervisors in testing the operator’s alertness and training X-ray screener /operators to improve their ability in identifying specific threat object.
- 5) TIP Image Library – The TIP facility should have an image library containing at least 100 explosive devices, 100 knives and 100 firearms as well as CDs, floppies, thumb devices, etc .,in various sizes, shapes, locations and orientations.
- 6) Expansion of TIP Library - The system should have facility to expand the library to incorporate additional images by user without assistance of the manufacturer.
- 7) Image Analysis - Once the screener / operator has responded to identify the computer generated threat image, it should remain on the screen for a predefined user programmable time for analysis. The image should be highlighted, upon identification, and feedback message shall be visible to the screener / operator.
- 8) System Administrator - The threat image projection facility should have details of user database such as screener / operator name, user ID number, level of access such as screener / operator and Administrator with password.
- 9) Restricted Access - Access to startup menu should be restricted only to authorized individuals. A login procedure by means of ‘Password’ or ‘Security Key’ should be provided

to achieve restricted access. 10) Log-in - The login procedure should not take more than 20 seconds. 11) TIP Bypass - The system should have facility to bypass the TIP facility, if programmed so, by the system Administrator. It is to be ensured that the TIP software should not be a hindrance to normal functioning of X-ray machines. 12) TIP Database - All TIP data should be stored in the system database for a minimum period of two months, after it has been downloaded. No individual, regardless of access rights to the TIP components should be able to delete or amend any of the TIP data i.e. TIP data on the actual xray machine should be stored as read-only files. 13) Feedback - The feedback should clearly indicate on screen that a TIP object has been correctly identified / TIP object has been missed/No TIP object was present. No message needs to be presented if the screener / *operator correctly passes a clear bag. 14) TIP Logs - TIP log should indicate particulars of name of the screener/operator, time and date of threat image projection, whether threat image was successfully identified or missed, etc. 15) Reports - The report on TIP system should have date and time (from-to) as per requirement, screener/ operator particulars and decision/outcome such as 'HIT', 'MISS' or 'FALSE ALARM' in percentage as well in absolute numbers, number of bags screened, categories of threat objects such as explosives devices, knife, weapon, etc.

1.30 Physical Dimensions –

The Physical dimensions shall not exceed 1420 mm x 850 mm x 1260 mm

1.31 Continuous Diagnostic Software Feature –

The supplied system shall be equipped with Continuous Diagnostic software which will monitor all the critical components of the system like the Power Supplies, X-Ray Generator, Voltages, Current, Diodes, Tunnels, Temperature, etc and generate the log of errors files.

Technical specifications of HAND HELD METAL DETECTORS

Sr. No.	Particulars	
1.	Dimension	Probe width : Maximum 150 mm Length : Maximum 500 mm
2.	Body width	Maximum 65 mm
3.	Weight	Maximum : 500 gms (with battery)
4.	Power source	Alkaline battery 9 volt and should run minimum 100 hours
5.	Battery Protection	To be provided against damage due to reverse polarity
6.	Indication	Single LED based audio and visual multiple indication for: Switch on Metal detection Low battery indication
7.	Operation	Three way push button operation – On/Off/Momentary
8.	Construction	Should be rugged and impact resistant ABS moulded casing
9.	Scan Rate	Minimum 3” to 24” per second
10.	Detection	Should be able to detect ferrous and no-ferrous metals Pistol .22 at minimum 6” Cartridge .22 minimum at 2” Razor Blade at minimum 1”
11	Tuning	Automatic to ensure equal result on wide range of metals and alloys

12	Operating Temperatures Humidity	0 -50 deg Celsius. 0 to 95 % non-condensing
13	Safety	The detector should be safe for people with pacemakers and should not affect magnetic recording media
14	Warranty	1 year from the date of supply
15	Life of Equipment	Minimum 5 years
16.	Miscellaneous	The contractor should be able to provide the following, as applicable, along with the equipment: Technical Manual giving full description of equipment User's Hand Book

Technical specification of Multi zone door frame metal detectors

Sr. No.	PARTICULARS	
1.	Technology	Pulse Induction Technology
2.	Passage Dimensions	Height: 205 cm, Breadth: 76 cm, Width: 70 cm.
3	Weight	90 Kg maximum
4	Power Supply	220 + 10 VAC/ 50 Hz, Power ON delay: 10-20 seconds
5	Alarm Signal	a. Acoustic and optical alarm b. Alphanumeric display and zone display. c. Height on person bar display (metal locator).
6	Sensitivity	Wide range of sensitivity setting and fine tuning. All zones individually adjustable
7	Zones	Not less than Nine zones, covering full height of instrument.
8	Calibration	Manual and automatic by built-in key pad and by remote

		control via a serial/ wireless link. All function should be programmable and controlled by a microprocessor
9	Counter	Intelligent traffic counter for transit.
10	Detection	<ul style="list-style-type: none"> a. Uniform from top to bottom. b. Should be capable to detect both ferrous and non ferrous metals. c. High discrimination between small masses and personal metallic objects. d. Should be able to detect multiple metal objects of various sizes in all the zones simultaneously. e. Automatic synchronization for DFMDs located close to each other up to a distance of one foot side by side.
11	Throughput rate	40 people per minute
12	Protection	Conform to relevant electric safety standard (supported by test certificate from NABL(India) or other accredited labs from the country of origin of the equipment).
13	Safety	<ul style="list-style-type: none"> a. Programming protected by pass word. b. Magnetic field should be harmless to magnetic media, electronic devices (supported by test certificates from NABL (India) or other accredited labs from the country of origin of the equipment), weaver of heart pacemakers and pregnant women (By a Government recognized medical institute). c. Should not be affected by heavily reinforced floors. d. Should not be affected by external RF transmission and EMI. e. Should automatically adjust to stationary metal in the vicinity at any distance.
14	Accessories to be provided	<ul style="list-style-type: none"> a. Operating manual for user. b. Text samples for testing during commissioning and during maintenance.

15	Humidity	Up to 95% Non-Condensing
16	Operating Temperature	From -5 to 55 degree centigrade
17	Warranty	One Year

Technical specification of Walkie- Talkie

General

Sr. No.	Particular	Range
1.	Frequency Range	UHF , 350-300 MHz
2.	Channel capacity	16(15+1)
3.	Channel spacing	25(KHz), 12.5 KHz
4.	Frequency stability	± 2.5.PPM
5.	Operating temperature	-35 c - +60 C
6.	Antenna Impedance	50 Ω
7.	Operating Voltage	7.4 V
8.	Battery	2200 mAh Li-ion –rechargeable minimum

Transmitter

Sr. No.	Particular	Range
1.	RF power (H/L)	7W/4W/1W
2.	Modulation type	16 Kbf3E/BKOF3E
3.	Modulation Limiting	±5 KHz /± 2kHz
4.	FM Distortion	<5%
5.	Residual FM	FM-45 Db B/-40Db
6.	Adjacent Channel Power	-70 Db/-60Db
7.	Spurious and Harmonics	< 35 dB

Receiver

Sr. No.	Particular	Range
1.	Sensitivity	0.22 μ V/0.25 V
2.	Adjacent channel selectivity	70Db/60 Db
3.	Intermodulation Reject ratio	65Db
4.	Spurious Response Reject ratio	70 Db
5.	8/N	45Db/40Db
6.	Rated Auto power output	500 mw
7.	Rated audio distortion	<5%

1. License shall be arranged by the supplier , fee shall be reimbursed by STC
2. Scan/Monitor facility
3. Hands free facility
4. Room monitor
5. Handset connector
6. 5 call tones –minimum
7. Two bely clip
8. Twin Charger and pod
9. Instruction manual
10. VoX
11. Auto squelch
12. Channel monitor
13. Timer
14. Key pad tone
15. Talk concontractoration tone/Roger
16. AC adapter
17. The battery supplied should be capable for minimum 24 hours
18. LCD disply with back light
19. Key pad lock
20. Single pin headset connector

21. Water Resistant bag.

4. Note: - Bidder has to include all the items which are necessarily required for the completion of the project even if those are not mentioned in the detailed B.O.Q. or tender terms. Nothing extra shall be paid on this account.

(Chief Manger –E)

COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT CAMC (OPTIONAL).

1. STC will enter into a Comprehensive AMC with the successful contractor for a period of 3 year after expiry of 1 year warranty of the entire systems including all material and consumable items like cables, connectors, conduits etc and services. Nothing extra shall be paid by STC for services and material.
2. If STC decides to exercise the option to enter into Comprehensive Annual Maintenance Contract upon expiry of warranty period of 1 years, the agreement for Annual Maintenance Contract will be signed with the successful contractor at least one month prior to the expiry of the warranty period. The CAMC rates will be specified by the contractor in commercial bid which will be once again negotiated, if required.
3. The contractor is required submit a Performance Bank Guarantee of 10% of the CAMC value to the STC and the PBG will remain valid for the entire AMC period.
4. CAMC charges for each year shall be paid on half yearly basis after every six months after rendering the services.
5. The contractor should have support office in Delhi/NCR in order to provide round the clock telephonic and on-site support. The details of the support office including office address, Name and contact no. of the office in charge, details of the skilled engineers (name, contact phone/ mobile nos. etc.) should be provided in the offer.
6. During the CAMC period, the contractor should provide support on all 365 days including Saturday, Sunday and all Holidays for the entire hardware in order to maintain the required uptime. All the calls will be communicated to your local office through telephone or email. It would be the responsibility of contractor to ensure the desired uptime to avoid any penalties.
7. During the CAMC period, the contractor must provide all the patches and upgrades for the entire System at no additional cost to STC. These upgrades and patches would be installed at STC site as and when necessary. It would be contractor's responsibility to maintain the necessary spares for the entire system at their Delhi/NCR Office in order to meet the spares requirement on site on 24x7x365 basis (including Saturday, Sunday and all Holidays).

8. The contractor should ensure an uptime of minimum 99.5% for the entire system during AMC period failing which a penalty would be imposed @ Rs. 500/- per hour exceeding the allowable downtime of 0.5% for 365/366 Days.

AMC Uptime/Downtime Calculation:

Uptime of the entire items:

@99.5% yearly indicates availability & proper functioning of entire items for 363.175 Days= 8716.2 Hrs.

Downtime Allowed Yearly:

@ 365 days = (365x24) Hrs. – 8716.2 Hrs. = 43.8 Hrs. Yearly.

Downtime Allowed Monthly:

@ 43.8Hrs/12= 3.65 Hrs.

Therefore the maximum time allowed for a particular equipment to remain down monthly (exclusive of allowable repairing time of 1 Hr., Journey Time of 2 Hrs. & Night hours provided the fault occurred in night time) = 3.65 Hrs., beyond this penalty @ Rs 500/- will be charged per hour.

9. Preventive Maintenance Service. The contractor will provide a minimum of twelve Preventive Maintenance Services visits during a year to the operating base to carry out functional checkups and minor adjustments/tuning as may be required.

10. In case, it is observed, the services provided by the contractor during CAMC period is unsatisfactory, they the STC has every right to terminate the service contract with a notice period of 10 days in advance and if the STC opts to maintain the system in house or through a third party during the residue CAMC period, the contractor will continue to provide all spares/modules required on payment basis to maintain the Hardware in their original configuration and if it failed to do so will amount to breach of contract and will also forfeit the Bank Guarantee held towards CAMC.

Price Bid

Prices for, Supply, Installation, Testing & Commissioning (SITC) of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie talkie, DFMD(Door Frame metal detector) in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi The rates quoted should be inclusive all taxes and duties including VAT, Octroi, Insurance, Exit tax, Freight etc.

A. CCTV SURVEILLANCE SYSTEM					
S.no	Item description	UO M	Qty.	Price/unit (Rs.)	Amount (Rs.)
1	SITC of Complete IP based CCTV surveillance system as per mandatory items (Scope of supply) along with complete accessories as required	Lot	1		
1	SITC of 2.1 MP PTZ camera as per technical specifications along with complete accessories as required	Lot	8		
2	SITC of 2.1 MP full HD Fixed box camera as per technical specifications along with complete accessories as required	Lot	14		
3	SITC of IP based fixed Dome camera 2.1MP as per specifications along with complete accessories as required	Lot	30		
4	SITC of IP based fixed Dome camera 2.1MP as per specifications along with complete accessories as required	Lot	2		

5	SITC of Network Video management system software and hardware with 100 camera licence	Lot	1		
6	SITC of Full functional keyboard with variable speed joystick controller compatible with above mentioned matrix controller server.	Lot	1		
7	SITC of video management storage server-for 30 days @ 2MP	Lot	1		
8	SITC of 42 inch high resolution colour LED monitor for matrix view dedicated to view camera inputs	Lot	2		
9	SITC of 22 inch high resolution colour LED monitor for NMS view	Lot	1		
10	Network monitoring system software and server	Lot	1		
11	ON LINE UPS –6 KVA rack mounted – (for 30 minutes back up time)	Lot	1		
12	Supply and installation of Rack 36 u floor mounted for control room equipment.	Lot	1		
13	Split Air Conditioner 2 TR for control room	Lot	1		
14	Workstation	Lot	1		
	Total (Rs.)				
Total(A)(in words)					

B.) OTHER SAFETY EQUIPMENT

S.no	Item description	UO M	Qt y.	Price/u nit(Rs.)	Amount (Rs.)
1.	SITC of Hand held Metal Detector (4+1 standby) with all accessory items necessary for successful installation	no.	10		
2.	SITC of X Ray baggage Inspection system with all accessory items necessary for successful installation	no.	03		
3.	SITC of Multi-zone DFMD (Door frame Metal Detector for Main reception and back side entrance(C wing) on ground floor with all accessory items necessary for successful installation	no.	03		
4	SITC of Hand held Walkie-talkie sets with accessories with all accessory items necessary for successful installation	no.	8		

(C) Comprehensive Annual maintenance Contract 3 (three) years

Sr. No.	Particular	Rate for one year (comprehensive AMC)	Cost for 3 years	Amount (Rs.)
	Comprehensive Annual maintenance contract for three year including all material and services , (including all taxes and duties except service tax)			
		Total		

In words

Total amount (A) + (B)+ (C) = Rs Figures (Rs.)

In Words

Signature, Name and seal of the bidder

Note :-

1. The price comparison shall be done on the basis of Total Cost of the Work ie (A) + (B) +(C) . STC will have an option to award the AMC after defect liability period.
2. No other format of price submission shall be accepted. Bidder should sign on Every Page of the bid.
3. The bidder is required to quote for the complete work, though STC reserve the right to award the work in full or in part.
4. Bidder quoting for only one part or partially of the above shall not be considered.
- 5 The offer shall be valid for 90 days from the date of tender opening
6. Leaving an unfilled entry in the price bid against any term shall mean as Zero cost and the bid shall be evaluated accordingly.
7. Bidder should follow the technical specification as described in tender document.
8. All prices are inclusive of all taxes (Except service tax), freight up to site, labour and Material etc.
9. The contractor has to quote considering the location of the cameras and other accessories necessary for successful design, supply , installation testing commissioning of CCTV surveillance system , X Ray BIS(Baggage Inspection system) ,HHMD (Hand held Metal Detector), Hand Held Walkie-talkie, DFMD(Door Frame metal detector) , in Jawahar Vyapar Bhawan,1-Tolstoy Marg, Delhi. The accessories shall include but not limited to the following. The accessories are indicative and it is intended to install the system in successful manner .The contractor has to quote as per site condition, considering the fact that this is a “Turnkey “Project. Following is an indicative list of items that may be used for successful installation. No extra cost shall be payable for accessories as indicated below. The contractor has to survey the building for assessment of accessory quantities required for the installation and commissioning of mandatory items.

- (a) 24 port managed core 2 switch 10/100/1000 for control room with 2 SFP ports fully populated (with 2 SFPS)
- (b) POE switch 8 ports fully populated.
- (c) Rack 36 u floor mounted for control room equipment.
- (d) Rack 6 u
- (e) unarmored power cable 3 core ,1.5 sq.mm
- (f) 32 mm PVC conduit
- (g) cat 6 cable
- (h) cat 6 I/O face plate & box for cable termination
cat 6 patch cord (2 mtrs.)
- (i) Junction box for our door camera
- (j) Hanging down pole with 1/1 base plate for CCTV cameras
- (k) Armored 6 core multi's FO cable
- (l) Media converter
- (m) LIU.
- (n) Fiber patch cords
- (o) Single mode gigabit SFP module
- (p) Pole 6 mtr height
- (q) Other accessories needed like ,Ethernet switches , etc
- (r) VHF Static Base sets with antenna, battery and accessories with all accessory items
- (s) any other works like electrical and civil works
- (t) **Any other works including civil, electrical, mechanical that is necessary for successful and proper installation of CCTV surveillance and other safety equipment installation as “complete”. The contractor shall have to carry out all these other works as per requirement of STC without any extra cost.**

(Chief Manger –E)