NIT NO:59 DATE:02.06.2018



SBI INFRA MANAGEMENT SOLUTIONS PVT LTD (WHOLLY OWNED SUBSIDIARY OF SBI)

INVITES TENDERS ON BEHALF OF INTERNAL AUDIT DEPARTMENT, HYDERABAD.

FOR

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

Last date for submission of E Tender: **3.00 P.M. (IST)** on **18/06/2018**.

Date of pre-bid meeting: **11.00Hrs on 12/06/2018** at Internal Audit Department, Opposite to University of Hyderabad gate No: 3, Gachibowli, Hyderabad-500019

Opening of E Tenders: 3.30 P. M. (IST) on 18/06/2018.

IN TWO BID SYSTEM THROUGH E-TENDER(E-REVESRE AUCTION)

Note: Bidder should possess valid digital signature for this e-tender

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

State Bank of India Infra Management Solutions PvtLTd(SBIIMS), Hyderabad invites applications to execute the captioned works on behalf of Internal Audit Department, Hyderabad, .The estimated cost of the above works is Rs38,00,000.00(approx).For further details log on to Bank's website www.sbi.co.in (Procurement News link) from 02.06.2018 to 18.06.2018.

For amendments/corrigendum if any, interested suppliers are requested to keep monitoring above portals till last date as no separate publicity through newspapers will be made. For any clarifications, please call to 9705363299.

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

1.	Name of the Work	Supply, Installation, Testing And Commissioning Of Audio-Video Equipment's of Conference Hall At Internal Audit Department, Hyderabad.
2.	Date and Time where tender documents are available	Tender document is available for download from Dt. 02.06.2018 to Dt18.06.2018 at M/s E-Procurement Technologies Ltd. websitehttps://sbi.abcprocure.com/EPROC
3.	Date of issue/ availability of Tender in online	
4.	Approximate cost of the Work	Rs.38,00,000.00Plus GST
5.	Cost of tender	Rs. 1500.00
6.	Earnest Money Deposit (EMD)	Rs.38,000.00DD/BC Drawn In Favour Of SBIIMS, Hyderabad, Payable at Mumbai .It should reach to SBIIMS, SBI LHO, Hyderabad before 18/06/2018 by 3.00pm.
7.	Initial Security Deposit	2% of the Value of work including EMD
8.	Site Visit and Pre- Bid meeting	Pre-Bid meeting on 12.06.2018 at 11:00 AMat Internal Audit Department, Opposite to University of Hyderabad gate No:3, Gachibowli, Hyderabad-500019 .Contact No:9705363299. If any clarifications required before pre-bid meeting please mail to paparao.paidi@sbi.co.in
9.	Date of posting of clarifications on the Bidder's queries	13/6/2018 (Clarifications shall be posted only on the SBI website under procurement news. No individual communication shall be provided to the Bidder).
10.	Last date, time and Mode of submission	The signed and stamped copy of Technical bid (Part -1) and Indicative price Bid(Part-2)

	of Technical Bid document (Part-1) and Indicative price Bid(PART-2) separately.	along with relevent documents needs to be uploaded in website On or before 18.06.2018 upto 1500 Hrs. Website Details: https://sbi.abcprocure.com/EPROC E-Procurement Technologies Ltd. B-705, Wall street II, Opposite Orient Club, Near Gujarat college, Ahmedabad- 380006, Phone: 079-40016826
11.	Date and Time of opening of online Technical Bid.(Indicative price bids will be opened after evolution of technical bids and indicative price bids of eligible bidders only considered.	At 15:30 Hours on Dt 18.06.2018.Date & time of reverse auction will be intimated through registered mail
12.		30 days from the date of issue of Work order.
13.	Defects Liability Period	36Months (thirty six months)
14.	Comprehensive Annual Maintenance Contract	3 years comprehensive AMC after completion of the 3-year Defect Liability Period.
15.	Total Security Deposit	5 % of contract value including initial security deposit.
16.	Additional Security Deposit	As per the Tender Clause.
17.	Liquidated Damages	0.50% per week subject to max 5%of the value of work
	Rates	Rates quoted by the tendered shall remain firm throughout the contract periods (including authorized extension).Goods & Service Tax will be paid extra as applicable.
19.	Payments terms	I. No advance is payable.

		 II. On receipt of complete materials with satisfactory test reports at site and against installation, Testing and commissioning 90% of cost will be paid. III. The balance 10% of cost will be treated as Retention money deposit which will be released after the defect liability period of three year from the date of Commissioning the system. Retention money will be released on producing a Bank guarantee for an equalsum valid until the expiry of the defect liability period. IV The amount of CAMC plus GST will be paid on quarterly basis after successful completion and the 		
		satisfactory service during the quarter of service.		
20.	Working schedule	Since the work has to be carried out in existing premises so utmost precaution to be taken while executing work. The contractor can work round the o' clock on bank's holidays and during working days.		
21.	Insurance	The contractor shall obtain all necessary insurance policies as per the governing laws applicable at the center& shall require to produce the original policy of the policies & receipt of the premium as applicable in the matter to the SBIIMS.		
22.	Water and Electricity	Water & Electricity shall be provided by the Bank at one point. However further distribution & extension & light fixture tec. With required MCB switches, switch boards, lamp, tube tec. Shall be arranged by the contractor at their own cost within the accepted tender amount.		
SB	IIMS has the right to a	accept/reject any/all tenders without assigning any		
reasons. For amendments/corrigendum if any, interested suppliers are requested to keep				
mo	nitoring above portals till	last date as no separate publicity through newspapers tions, please call to 9705363299.		

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS OF CONFERENCE HALL AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

INSTRUCTIONS TO APPLICANTS

01. GENERAL

State Bank of India Infra Management Solutions PvtLTd(SBIIMS), (Herein after called 'SBIIMS') invites applications for participating in the tendering for the captioned work. The purpose of this pre-qualification is to shortlist suitable Contractors for obtaining competitive bids for the captioned project.

02. DETAILS OF PROJECT/WORK

l.	Name of the Work	Supply, Installation, Testing And Commissioning Of Audio-Video Equipments At Internal Audit
		Department, Hyderabad.
II.	Scope of work in brief:	The work includes SITC of Display unit, switching devices, Matrix Switch, Audio System, Control system and cable & accessories etc.

03. ELIGIBILITY CRITERIA FOR PRE-QUALIFICATION

Contractors applying for pre-qualification must fulfill each of the following criteria individually as contractor/contracting firm. The applications of the contractors not fulfilling the said criteria shall not be considered for short listing /pre-qualification.

- <u>I)</u> The applicant should be a well-established and reputed Indian firm (for a minimum period of 7 years as on 30.05.2018) engaged in providing Audio Visual system/Solutions.
- II) The applicant should have a local office & service Sentre in Hyderabad for last two years ending 30.05.2018.
- III) The applicant should have a valid PAN of Income Tax Department
- IV) The applicant should have a valid GST registration
- V) Average Annual financial turnover during the last 3 years, ending 31st March of the previous financial year (31-03-2018), should be at least 30% of the estimated cost i.e. at least Rs11,40,000.00
- <u>VI)</u> Experience of having successfully completed similar works during last 7 years ending last day of months previous to the one in which applications (30.05.2018)and engaged in providing Audio Visual Solutions for Corporate Offices / Enterprises. are invited should be either of the following:
 - (a) Three similar completed works costing not less than the amount equal to 40% of the estimated cost. Should be at least Rs. 15,20,000.00of each work.

Or

(b) Two similar completed works costing not less that the amount equal to 50% of the estimated cost. Should be at least Rs. 19,00,000.00 of each work.

Or

(c) One similar completed work costing not less than the amount equal to 80% of the estimated cost. Should be at least Rs.30,40,000.00

- VII) Only Original Equipment Manufacturer will be considered. The applicant should have sufficient number of technical and administrative employees. The applicant should submit a list of employees with contact details.
- VIII) The applicant should be registered with other organizations like PSU/ Govt. Dept. /Semi Govt. Dept. / Nationalized Bank's.
- IX) The applicant should have supplied similar rated capacity in PSU/ Nationalized Bank's/
 State and Central Govt Organizations/ Insurance companies. The work order must be
 in the name of the applicant (OEM) and not through the dealers. The applicant must
 submit the completion certificate/ order copies from clients.
- x) The applicant must have a full-fledged service centers with complete infrastructures including skilled staff for repair & maintenancewith contact details in Hyderabad, or secunderabadwith sufficient spare parts and technically qualified service technicians to provide prompt services and regular preventive maintenance.
- xi). The applicant should not have incurred any loss in three years or more during the last five years ending 31.03.2018, duly certified by a Chartered Accountant. The firm should not be under liquidation, court receivership or similar proceedings.
- xii) The applicant should have a solvency of minimum Rs.38.00 lakhs certified by a scheduled Bank. The solvency Certificate should not have been obtained earlier than 01.06.2018.
- xiii). The applicant should own adequate tools and equipments required for the proper execution of the work on a fast track basis
- xiv) The applicant should have at least one Infocomm International, CTS (Certified Technology Specialist) certified engineers
- xv) Applicant's performance for each work completed in the last 7 years and works should be good and it should be certified by an officer not below the rank of Superintending Engineer/Chief Project Manager or equivalent of the client for whom work was executed.
- xvi) The Applicants for prequalification of Audio Visual system should have the authorization from the Original Equipment Manufacturer(OEM) for supply of all components of Audio Visual system and undertake to carry out comprehensive AMC for at least three years after

the defect liability period of three year and carry out software upgradation up to 3 years after the expiry of Defect Liability Period free of cost

xvii)Only such contractors who fulfill the aforesaid eligibility criteria need apply. Joint ventures and/or consortium are not allowed are not accepted.

Definition of similar works:

- (i) "similar" works under this clause shall mean successful completion of "Audio Visual (Video) Integration work.
- (ii) "Cost of work" shall mean actual gross value of completed "similar" work including all the components executed under single contract. The applicant shall submit a copy of final Bill certificate of each project executed by them, during the said period.
- (iii) Out of the above said completed works, minimum one work of required value should be for some Central/State Government/Autonomous Body/Central/State Public Sector Undertaking/Bank/Financial Institute /Corporate Body/Reputed Educational Institute.
- (iv) "Applicant" means proprietary concern, partnership firm, private or public limited company applying for tender. "Employer" or "Client" or "Owner" or "Bank" means State Bank of India.
- O4. Contractors fulfilling the above conditions may submit the online application through sbi.abc. procureporatral "to be submitted as specified in the NIT.
- 05. The applicant should sign on all the pages/documents submitted with their Company's seal.
- 06. The SBIIMS reserves the right to accept or reject any or all applications without assigning any reasons thereof.

EVALUATION CRITERIA FOR PRE-QUALIFICATION:

For the purpose of pre-qualification, applications will be evaluated in the following manner: The initial eligibility criteria prescribed in SI No 3 above (in respect of experience of similar class of works completed) shall first be scrutinized and the applicant's eligibility for pre-qualification for the work be determined.

- a) Only the applicants who meet the eligibility criteria on the basis of details furnished by them specified as above will be further considered for opening of price bids.
- b) If necessary, the authorized representatives of Bank will visit many / few works / sites which are recently executed / being executed by the applicants, in order to evaluate the performance of the applicants. In such case, the applicant will be required to obtain/give them the necessary permission/facilities and arrangements for site visit as necessary.
- c). On the basis of the criteria mentioned above and after the evaluation of the applicants based on the site visit report, credentials submitted by the applicants, confidential reports obtained from various clientele (wherever necessary), applications will be shortlisted. The short listed applicants will be considered for prequalification subject to verification of relevant documents.
- d) Tenders for the work will be invited only from prequalified contractors. The prequalified documents can be downloaded from the Website of SBI, www.sbi.co.in under procurement news. Or www.sbi.abcprocure.com

07 .INSTUCTIONS TO APPLICANTS

- i) Duly filled application form with Annexure A to C along with enclosures/documentary proofs as defined in the said application form signed on each page by the authorized signatory should be collectively uploaded in the website
- ii) Any & all cost/expenditure incurred by the applicants in relation to making the application, shall be borne by the applicant. No payment by way of reimbursement or whatsoever shall be made by the Bank.
- iii) The applicants should furnish all the information strictly in the formats furnished/provided/made available here in the prequalification note. The applications not complying with this requirement are liable to be rejected outright without assigning any reason at the sole discretion of the SBIIMS.

iv) All corrections and overwriting should be attested & countersigned by the authorized signatory of the applicant, along with the office seal there on.

v) In case an applicant intends to give additional information, for which specified space is not sufficient, he may furnish such information by adding extra sheets by specifying/indicating the same in the appropriate column.

vi) Please ensure that the applications, annexed documents, enclosures etc are signed by the applicant's «Authorized Signatory» only and proof of mode of authorization (such as Power of Attorney, Partnership Deed indicating such authorization, resolution, authorization letter etc as applicable) is enclosed as prescribed in the Application Form.

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Sr. VicePresidentSBIIMS

	APPLICATION FORMA	T
SUPPL	Y, INSTALLATION, TESTING AND COMM	ISSIONING OF AUDIO-VIDEO
	MENTS OF CONFERENCE HALL AT INT	
_	RABAD.	,
PROFIL	Name of the Contractor/Agency/Firm	T
	Address	
	Address Phone No.	
"	(a) Landline with STD code	
	(b) Mobile	
	(c) Email-ID	
	Year of establishment (please enclose documentary	
	evidence)	
	Status of the firm whether company/firm/	
	Proprietary.(Enclose certified copies of documents as	
4.	evidence)	
5. I	Name of Directors/Partners/Proprietor	
	Names &Bio-data of	
	Proprietor/Partners/Associates/Directors, Details may be	
	given in the Enclosed format	(Annexure"A")
	Whether registered with the Registrar of	,
	Companies/Registrar of firms. If so,	
	mention number and date. (Enclose certified copies of	f
7.	documents as evidence)	
8. I	Name and address of Bankers	
	Whether registered for GST	
	Purpose. If so, mention GST number and	
	Date (Enclose certified copies of documents as evidence)	
	Whether an assesses of Income Tax. If	
	so, mention PAN number. (Furnish	
	copies of I.T. clearance certificate) Whether registration/obtention of license	
	from Govt authorities e.g., Labourdeptt,	
	ESIC, etc are in place (please enclose documentary	\mathbf{A}
	evidence)	
	If, you are registered in the panel of other	
k	organizations/statutory bodies such as CPWD, PWD	
	,MES, Banks etc., furnish their Names, category and date	
13.	of registration	

	1	
	Detailed description of high value of	
	three works done during the last 7	
14.	years.	(Annexure "B")
		Enclose trading& profit and loss
15.	Annual turnover for the last 3 years	statement and Traces 26AS
	Names and addresses of the persons	
	who will be in a position to certify about	
	the quality as well as performance of	
16.	your organization	
	Declaration regarding near relatives	
17.	working in the Bank	
	Income tax paid during last 3 years (Enclose certified copies	of document as evidence)
18.		,
	Name & value of other works on	
40	hand. Details may be given in the	(Annay, "O")
19.	enclosed format	(Annexure "C").
20.	List of Technical Personnel employed	
21.	List of other Personnel employed	
22.	List of consultants engaged by the Firm	
	List of office equipment owned by	
23	the company	
	Latest Income Tax Clearance Certificate	
24.	to be enclosed	
	List of completion certificate etc. from the clients : for	
25.	completed / ongoing projects	
	Certified copies of the letter of intent for award :	
	of the work from reputed private/multinational	
26.	organizations/PSUs etc.	
	Particulars of participation in competitions and awards if	
27.	any received	
	Whether the company has any time been disqualified/	
	blacklisted/ delisted by any other nationalized Bank or	
28.	any Govt/ Semi.Govt .Organization, if yes give details	
	Into: Please enclose senarate sheets for additional	that a man after the man and a second

Note: Please enclose separate sheets for additional information, photographs, and documents.

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS OF CONFERENCE HALL AT INTERNAL AUDIT DEPARTMENT,

HYDERABAD. NIT NO:59/18 DATE:02.06.2018

I/We have read and understood the Press notice, Pre-qualification Notice & this Application

form along with Annexure and my/our firm fulfills the ELIGIBILITY CRITERIA FOR PRE-

QUALIFICATION described in the Pre-qualification Notice.

I/We hereby confirm and certify that the information given above is correct and true and the

enclosures annexed herewith are genuine to the best of my / our knowledge.

I/We are authorized to sign and submit these documents for pre-qualification.

I We understand that if any stage it is found / noticed by the Bank that any information thus

provided by us is untrue / incorrect partly or fully and in case of receipt of adverse /

unsatisfactory report from other clients / Bankers, the Bank may not consider our application

and / or may de-list us and / or may take any appropriate action against us.

I We also understand that partly / wrongly filled application and / or applications not on

prescribed pro-forma and / or applications not accompanying relevant documents / enclosures

/ annexed documents are liable to be summarily rejected by the Bank.

I / We understand that this is merely an application & does not entitles me /us to be necessarily

pre-qualified by the Bank and Bank reserves the right to reject all and / or any application

without assigning any reason whatsoever.

Signature of the Applicant (with seal)

Date:

Place:

ANNEXURE "A"

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS OF CONFERENCE HALL AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

BIO-DATA OF THE PROPRIETORS/ PARTNERS / ASSOCIATES / DIRECTORS

(Use one sheet per official)

	(056 016	<u> </u>	ieet per olliciai)
1.	Name		•
2.	Date of Birth		•
3.	Professional Qualifications		
4.	Professional Experience		:
5.	Professional Affiliation		
6.	Associated with the firm since		•
7.	Membership in		
8.	Details of Published papers in Magazine		:
9.	Details of cost effective methods/ designs adopted in the projects		
10.	_	new	•

Note: Please enclose relevant copies of documents.

Signature of the Applicant (with seal)

Date:
Place:

ANNEXURE "B"

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS OF CONFERENCE HALL AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

1. NAME AND VALUE OF MAJOR WORKS COMPLETED DURING THE LAST 7 YEARS

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12
S. No	Na me of wor k/ pro ject & loca tion	Own er or spo nsor i ng orga niza tions	Date of Agre eme nt with the owne r	Sco pe of wor k exec uted	Buil t up are a of the buil din g for whi ch AV wor k has bee n done	Cos t of pro ject wor k in Cror es	Dat e of com men cem ent as per cont ract actu al date of com men ceme nt	Stipu lated Date of comp letio n & al date of comp letio n	Litiga tion/ Arbitr ation pendi ng/ In progr ess with detail s (if any)	Nam e and addr ess with cont act No. of Offic er of clien t to who m refer ence shall be made	Remarks

Notes:

- 1. Information has to be filled up specifically in this format only. Please do not write remark "As indicated in Brochure /Attached Documents".
- 2. Date shall be reckoned as on 31.05.2018.
- 3. For certificates, the issuing authority shall not be less than an Executive Engineer or equivalent in charge of the relevant work /project.

Furnish the names of three responsible clients/persons to whom the highest value of three major works carried out by the applicant with address and telephone number who will be a position to certify about the quality as well as past performance of your organization.

NAME OF THE OFFICIAL	ORGANISATION & ADDRESS	CONTACT NUMBERS

ANNEXURE "C"

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VIDEO EQUIPMENTS OF CONFERENCE HALL AT INTERNAL AUDIT DEPARTMENT, HYDERABAD.

NAME & VALUE OF OTHER WORKS ON HAND

SI no	Name of work/project with address	Name & full postal address of the owner. Specify whether Govt under taking along with name, address and contact Nos. of -2-persons (Engineers or top officials of the organization)	Contract amount (Rs.) with copy of Work Order from project in-charge	Stipulated time of completion (Months)	Present status of the project	Any other relevant information

Notes:

^{1.} Information has to be filled up specifically in this format only. Please do not write remark "As indicated in Brochure /enclosed documents".

O.E.MANUFACTURERS AUTHORISATION FORM

(in Original Letter Head of OEM)

(To be mandatorily submitted along with the Technical Bid document)

Τo

Senior Vice President SBI Infra Management Solutions Pvt. Ltd., 3rd Floor, Local Head Office, State Bank of India Bank Street, Koti, Hyderabad- 500095

Dear Sir,

Subject: Direct Manufacturers Authorization for the Installation

Name of Work: -

Wean established manufacturer of	and repu	ıtable
professional (Product) Registered office at	having	Corporate /
do	hereby	authorize
as our Distributor to submit a above bid subsequently negotiate and sign the con goods manufactured by us.		dt and for the supply of
We hereby confirm and extend our full	guarantee and w	arranty for <mark>3</mark> vears

as per standard service procedure for the products offered for supply by the above firm only against the invitation for bids _____ dt ____ and only duly authorize the said firm to act on our behalf in fulfilling any or all installation, technical support and maintenance obligation as required by the contract. Also undertake to carry out comprehensive AMC for at least three years after the defect liability period of three year and carry out software up gradation up to 3 years after the expiry of Defect Liability Period free of cost".

Yours	faithfully	,
for		

Signature of Officer Authorized to sign this Document on behalf of the OEM.

Successful Bidder has to follow the following process & timelines,-

- a) Within 3 days against E-mail confirmation of the award of the job, bidder has to submit all shop drawings along with the final make & model of every item, out of the approved makes, to be proposed by him.
- b) Within 3 days against e-mail confirmation, bidder has to allocate the Project Execution Team with dedicated project manager at site.
- c) Once Project Manager is appointed for SBIIMS by Bidder, the Project Manager will become the SPOC (Single Point of Contact) for execution related work And for Delivery schedule.
- d) After preparation of the drawings, PM of Bidder has to take approvals on the same from Architect & SBIIMS.
- e) Meanwhile, PM also suppose to give the complete instructions & prerequisites about sites.
- f) Once, the above stages are completed, the execution team should be at site within 2 working days & they should commence the works on site
- g) Once Execution team commences their works at site, within 3-4 working days, PM should give complete report of site technicalities on site. & he also has to give pending or incomplete Pre-requisites if any.
- h) Then PM has to give daily reports to Team of SBIIMS & Architects.
- i) Entire Execution Team should be insured at the required value by the bidder
- j) Entire Team should be at site with all precautionary measures like Safety Shoes, Life Jackets, Helmets etc. Without these, nobody will be permitted to site.

TERMS & CONDITIONS TO THECAMC SERVICE PROVIDERS:

- 1. The comprehensive AMC charges per year plus GST will be paid for four services in a year apart from any number of breakdown calls with a response period of 3 hours on receipt of complaint. penalty will be imposed @ 1% of the contract value per day of delay of the particular quarter.
- 2. If the work is found unsatisfactory or if the firm dishonours the contract, the job will be entrusted to any other firm /party at the risk/expense of the contractor.
- 3. The amount of CAMC will be paid on quarterly basis after successful completion the satisfactory service during the quarter of service.
- 4. Successful bidder has to handover entire AV system in good running condition before expiring of CAMC contract.
- 5. The Contractor shall bear all the costs and expenses in respect of all charges, including stamp duty, registration etc. of this agreement and/or any other documents/agreements, which are required to be executed.
- 6. All necessary tools shall be provided by the contractor
- 7. The contractor / firm shall be held responsible for any misdeeds / misbehavior of their employees within the premises.

Maintenance Services shall consist of:

- i) Corrective maintenance of equipment whenever the office reports fault in the above systems, the senior engineer of Service Provider will report within 24 hours of receipt of complaint from the expert deployed by the bidder and the machine will be made operational immediately.
- ii) Preventive maintenance of equipment preventive maintenance will be done once every month.

A. The maintenance Service includes:

i) Repair/replacement of all spare parts that are required to be repaired for the smooth and efficient functioning of the system;

iiAdjustment/Oiling of all mechanical parts;

- B) Preventive maintenance for all of the following:
 - a. Physical Inspection of the systems
 - b. LED Indication Checks in Detectors and Response Indicators Amplifier,
 Controller
 - c. Check and make note of any hardware changes and/or tampering observed
 - d. Power Supply Checks- Checking of DC Voltage across DC Power. Sort out any problematic issues with system functionality and take appropriate corrective action.
 - e. Follow operational level maintenance instructions received from Officer-In-charge
 - f. Checking of loose connections, terminations and joints of power & communication cables and restoring them
 - g. Cleaning of Panels, Detectors, Amplifiers, Music source and Microphone Etc using appropriate methods and applications.
 - h. Check System Errors and Alarms.
 - i. All kind of service/maintenance;
 - j. Audio System (amplifiers, speakers, mixers, microphone systems);
 - k. Video Conferencing System (all equipments);
 - Video system (Display Unit, switcher, DVD recorder/player, signal management device);
 - m. Control system (controller, interface, wireless networking module);
 - n. Software/upgrade (MCU software, software for video DSP, signal management device, mixer).
 - o. Any other service or maintenance required for full operation of the system. No extra charges shall be paid.

Functionality Document

25 Pax Board Room (39 x 26 ft) Display and Video System-

- The system is designed to view local presentation and video conferencing on 86"LED Display setup in front and 2 nos. of 75" existing LED displays mounted on side walls.
- Displays to be installed on wall structure with the help of wall mount bracket 5 nos. of cable cubby inputs are provided, 2 nos. with VGA-Audio and HDMI connectivity, 3 nos, with HDMI connectivity on the furniture/table for making the desired presentations through the Laptop, video conferencing codec for the video conferencing.
- A matrix switcher with multiple inputs and outputs enables and manages the routing of input sources to various output destinations.
- Switching of the input to be done by IPAD Air wireless touch panel.

Audio System

- The system re-enforces VC far end audio and presentation audio through the fixed install wall speakers.
- Table top boundary layer microphones captures the local user's speech and transmit to far end during a Video and audio conferencing calls and for local speech re-enforcement requirements.
- A multichannel audio DSP has been incorporated for achieving the desired audio signal processing, Echo cancellation, Gain settings etc, audio presets recall for different applications like local presentation etc.
- Volume control to be done through the iPad based touch control app/ touch panel user interface.

Video Conferencing System

- This system has been designed to establish video conferencing with far end participants, and is under the scope of client.
- This system has been designed to establish ISDN provided in this case or IP connectivity if provided by client for video conferencing with far end participants between 720 P to Full HD 1080p resolution with following frame rates depending on the available band width (provided by IT team/Client/end users.)
- I. 720p,30 fps from 128kbps
- II. 720p,60 fps from 832 kbps
- III. 1080p,30 fps from 1024 kbps
- IV. 1080p, 60fps from 1740 kbps

- Video capture of near end performed through one PAN/TILT/ZOOM HD camera placed below the display in the front for capturing the users/participants.
- It supports H.323/SIP Protocol
- It supports H.264 Video standards.

Control System

- The system enables the touch panel user interface i.e. Apple iPad to manage the signal routing, various AV equipment ON/OFF, volume control etc
- All of the various layouts pre-sets can be achieved or triggered using Graphic user interface wireless device I-pad by end user.

Installation System

- Industry standard modular cabinet (equipment rack) with front glass door, castor wheels, power Distribution Unit, Metal Cable Channel, earthing Strip and Shelves accommodates the installed AV equipment's and provides ease of access for future servicing requirements.
- Equipment rack is recommended to be placed in front cornerof the room.
- It is recommended that the equipment rack be opened or operated under the instructions of trained personnel.

Approval:

We have read the Functionality Document for project and are in agreement with all requirements set forth in the document. Any change in functionality from that mentioned in this document by either party is to be formally communicated in writing.

Signature Client Name:	Signature	_
Cheffe Harrier	personnel Name:	
Date:		