

TENDER FOR PACS & RIS FOR DEPARTMENT OF RADIOLOGY

The following amendments are proposed in tender no 24/Radio/289/2017-Rish (Admn) as discussed during pre bid 2 meeting held on 12/02/2018.

S.No	Page No (published tender document)	Heading	Original Document	Amendment Recommended
1	18	<u>PROJECT OVERVIEW</u>	This document solicits proposals from qualified Bidders with sufficient experience in the design and production of Radiology PACS (client based cluster architecture solution with web based functionality also available) as well as the installation, user training, and on-site maintenance and repair of all equipment components and subsystems related to the Archiving and Display of images created by diagnostic radiology imaging equipment.	This document solicits proposals from qualified Bidders with sufficient experience in the design and production of Radiology PACS (client based cluster architecture solution with web based functionality also available; Entire PACS and RIS solution should be on High Availability (HA) using VMware HA technology) as well as the installation, user training, and on-site maintenance (including preventive, predictive and remote maintenance) and repair of all equipment components and subsystems related to the Archiving and Display of images created by diagnostic radiology imaging equipment.
2	18	<u>Qualification Criterion</u>	PACS Manufacturer must bid directly	PACS Manufacturer must bid directly or through its direct Indian subsidiary.
3	18	<u>Qualification Criterion</u>	PACS manufacturer should be a company registered in India for minimum 5 years	PACS manufacturer should be a company registered in India for minimum 10 years.

4	18	<u>Qualification Criterion</u>	PACS should have been deployed at more than 10 sites within India out of which at least 2 should be in government hospitals. List of installations to be provided.	PACS should have been deployed at more than 10 sites within India out of which at least 2 should be in government hospitals of 1000 or more bed capacity each with at least 1 site in designated center of excellence at which RIS PACS is running successfully for more than 5 year duration. List of all installations to be provided. In addition certificate of satisfactory performance also to be provided of all installations in last five years from Head of the institution or designated authority by him/her.
5	18	<u>Qualification Criterion</u>	PACS must be US FDA and CE Certified, HIPAA compliant and US IHE compliant.	PACS must be ISO certified and / or US FDA and / or CE Certified (certificates must not be obtained later than 2014) PACS must be HIPAA and US IHE compliant.
6	18	<u>Qualification Criterion</u>	US FDA approved Zero foot print viewer.	May be deleted.
7	18	<u>Qualification Criterion</u>	PACS Vendor should preferably be ISO Certified.	May be deleted as covered in S. No 5
8	18	<u>Qualification Criterion</u>	The solution should not use any free/open source DICOM tools. Vendor should submit a certificate declaring conformance for this.	Any open / free source tool used in the PACS system must be clearly specified in the technical bid.

9	19	<u>Qualification Criterion</u>	Vendor should make provisions for onsite technical support with special mention about maximum down time if any	Vendor should make provision for 24 hours onsite technical support for first 6 months post installation completion and during working hours for subsequent 6 months. An uptime of more than 98% of working system is required.
10	19	<u>Technical requirements Under Major requirements</u>	--	Entire PACS and RIS solution should be on High Availability (HA) using VMware HA technology
11	20	<u>Technical requirements Under Image Archive</u>	Should be Vendor Neutral Archive (VNA) preferably level 3 and above.	Must be Vendor Neutral Archive (VNA) level 5 with Cross-Enterprise Document Sharing (XDS) with IHE Integration profile.
12	26	<u>Technical requirements Under Region of Interest, Distance, and Angle Measurements</u>	<ul style="list-style-type: none"> -The Workstation shall provide a tool to compute Cobbs Angle. -The Workstation shall provide Protractor and Cross Product calculation tools -The tools should have user definable color and line settings -The workstation shall allow automatic edge detection in a image -The Workstation shall provide a tool to compute CT Ratio 	May all be deleted
13	28	<u>Technical requirements Under Advanced 3D Features</u>	Advanced 3D should be windows based	Advanced 3D should be platform based and/or server – client based.

14	30	RIS-PACS Software Licenses	Teleradiology licences - 12	Teleradiology licences - Unlimited
15	30	RIS-PACS Software Licenses	Radiologist Workstation Licenses-12	Radiologist Workstation Licenses-100
16	30	RIS-PACS Software Licenses	MIP/MPR Licenses-12	MIP/MPR Licenses- Unlimited
17	30	RIS-PACS Software Licenses	Mammography Viewer Licenses-12	Mammography Viewer Licenses- Unlimited
18	30	RIS-PACS Software Licenses	Vendor Neutral Archive- Required (level 3 or above)	Required (level 5)
19	30	RIS-PACS Software Licenses	Onsite Engineer required	Vendor should make provisions for 24 hours onsite technical support for first 6 months post installation completion and during working hours for subsequent 6 months. An uptime of more than 95% of working system duration is required
20	31	RIS-PACS Software Licenses	Advanced 3D License (Integrated with PACS Viewer and should be windows based) Multiplanar Reformat (MPR) MIP/AveIP/MinIP Curved Planar Reformat (CPR) Medial Axial Reformat Oblique/Double Oblique SSD Volume Rendering (VR) Auto Bone removal- 12	Advanced 3D License (Integrated with PACS Viewer and should be windows based) Multiplanar Reformat (MPR) MIP/AveIP/MinIP Curved Planar Reformat (CPR) Medial Axial Reformat Oblique/Double Oblique SSD Volume Rendering (VR) Auto Bone removal Unlimited licenses

21	31	<u>RIS-PACS</u> <u>Software</u> <u>Licenses</u>	Advanced Visualization Module with following modules Vessel Analysis (including coronary) Calcium Scoring Time-Volume Analysis (e.g. Cardiac Function) Segmentation, Analysis & Tracking (lung nodule analysis) Lung/Colon Sphere Finder Detection Multi-phase MR (basic, e.g. Breast MR) Parametric Mapping (e.g. for Breast MR) Time Density Analysis (e.g. perfusion) Dental Software Fusion for CT/PET and other modalities CT/CTA Subtraction Flythrough (Colon) 3 Concurrent	Advanced Visualization Module with following modules Vessel Analysis (including coronary) Calcium Scoring Time-Volume Analysis (e.g. Cardiac Function) Segmentation, Analysis & Tracking (lung nodule analysis) Lung/Colon Sphere Finder Detection Multi-phase MR (basic, e.g. Breast MR) Parametric Mapping (e.g. for Breast MR) Time Density Analysis (e.g. perfusion) Dental Software Fusion for CT/PET and other modalities CT/CTA Subtraction Flythrough (Colon) 10 or more concurrent users
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22	32	<u>Hardware</u>	<p>Our requirements are of 6 months online storage and 5 years of complete storage. The vendors are required to assess the workload of department by visiting department and in consultation with head. The responsibility of storage to be adequate for this period lies with the vendor.</p>	<p>Blade Server: 2 Units Blade Chassis 4 Blades Server: 2x12 Core, 128 GB RAM per Blade, 25x1.2 TB 10K HDD, Dual Port FC on Chassis, CMC Management, 2xQuad Port PCI 1G NIC Card, 4 Power Supplies Network Load Balancer: 2 Units. VNA Archive should be having a Capacity of 100 TB or more usable on RIAD-5 configuration on high Performance Disks of 10K rmp.</p> <p>Primary storage: EMC VNXe 3200 Unified Storage or Equivalent, 4 FC ports, 4 iSCSI Ports, redundant Power Supply, FC connectivity, NAS Connectivity, CIFS Connectivity, 75TB Usable on 10K RPM HDD for Image Storage. Storage should be expandable to 1PB capacity.</p> <p>2 copies of Image data on 2 physical storage boxes so that Image data is secure and redundant. The Image storage to be on the second storage and on disks of 7.2k rmp hard disks using RAID-5 configuration with a usable capacity of 100TB or more.</p>
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				<p>Second storage: Dual Controller Storage with dual SAS Connectivity, DAS Connectivity, Redundant Power Supply, 100 TB or more Usable on 10K RPM HDD for Image Storage, Tier 4 data center backup in full VNA.</p> <p>Firewall protection for the servers.</p> <p>Cloud storage for disaster recovery only. Patient privacy as per GOI directive.</p>
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23	32	Hardware	<p>3 MP Color Dual Head Medical Grade Monitor with 5 years warranty (34 inch ultra wide panoramic color TFT monitor) (Barco or equivalent)</p> <p>Number required: 10</p>	<p>3 MP Color Dual Head Medical Grade Monitor with</p> <ul style="list-style-type: none"> *5 years warranty *Max Luminescence of 900 cd/m² *DICOM calibrated luminescence of 500 cd/ m² * contrast ratio of 1400:1 <p>*Monitor should be factory fitted with non-reflective protection glass and graphic card of the same make. Should be FDA approved and meet ACR guidelines</p> <p>Number required: 05</p>
24	32	Hardware	<p>6 MP Fusion Color Medical Grade Monitor with 5 years warranty (34 inch ultra wide panoramic color TFT monitor) (Barco or equivalent)</p> <p>Number required: 02</p>	<p>6 MP Color Fusion Medical Grade Monitor with</p> <ul style="list-style-type: none"> *5 years warranty *Max Luminescence of 1050 cd/m² *DICOM calibrated luminescence of 600 cd/m² * contrast ratio of 1500:1 <p>* Monitor should be factory fitted with non-reflective protection glass and graphic card of the same make. Should be FDA approved and meet ACR guidelines</p> <p>Number required: 05</p>

25	32	Hardware	--	<p>10 MP or more Color Fusion Medical Grade Monitor with</p> <ul style="list-style-type: none"> *5 years warranty *Max Luminescence of 2100 cd/m² *DICOM calibrated luminescence of 1000 cd/m² * contrast ratio of 1200:1 * <p>Monitor should be factory fitted with non-reflective protection glass and graphic card of the same make</p> <ul style="list-style-type: none"> *FDA approved for Mammography Tomo <p>Number required: 02</p>
26	--	Hardware	--	<p>55 inch Full HD Medical Grade Monitor for teaching activities with</p> <ul style="list-style-type: none"> *5 years warranty <p>Should be FDA approved and meet ACR guidelines</p> <p>Number required: 01</p> <p>It will be installed in the Academic wing of the Dept. of Radiodiagnosis with integration of all imaging modalities in trauma center and academic wing of the Department. Remote control for all functions in the monitor for browsing and display</p>

27	32	Hardware	<p>Speech Recognition Software with Radiology Library with Philips or equivalent USB Speechmic</p> <p>Required : 12</p>	<p>Speech Recognition Software with Radiology Library with Philips or equivalent USB Speechmic (speech magic or equivalent) * server based voice recognition system which can be tightly integrated with the PACS. The profiles should be created in the server and the radiologist should be able to use the same from any of the work station.</p> <p>Required: Speechmic or equivalent: 12 User profiles: 100 Concurrent users: 12</p>
28	32	Hardware	MS Office for Radiologist Workstations	MS Office (enterprise edition; latest licensed version) for Radiologist Workstations.
29	33		Any other hardware as may be required for software as per hospital requirement.	<p>Any other hardware as may be required for software as per hospital requirement.</p> <p>* Hardware and software refreshment to be done after 5 Years and the vendor shall bear the cost of the same.</p>

CRITERIA FOR WEIGHTAGE DURING TECHNICAL EVALUATION

MERIT POINT SYSTEM:

The following merit point system for weighing evaluation factors/ criteria will be applied for technical proposals. Minimum qualifying score is 70 out of 100.

EVALUATION CRITERIA

A. OVERALL EVALUATION:

S#	PARAMETERS	MARKS
1.	Relevant Experience of PACS and RIS	15
2.	Integrated Radiology PACS Software Development Experience	15
3.	Relevant Support and Maintenance Experience of Turn-Key Solution for Up-gradation of Software through Integrated Module / System	8
4.	Quality of Methodology, Work Plan	7
5.	No litigation with the Procuring Agency/Govt. Dept.	5
TOTAL MARKS		50

(i) **Relevant Experience of PACS and RIS:** **[15 Points]**

PACS should have been deployed at more than 10 sites within India out of which at least 2 should be in government hospitals of 1000 or more bed capacity each with at least 1 site in designated center of excellence at which RIS PACS is running successfully for more than 5 year duration.

(ii) **Integrated Radiology PACS Software Development Experience:** **[15 Points]**

The bidder is required to provide details of 3 most relevant and best Integrated PACS software developed for projects undertaken in the last 5 years. The procuring agency shall evaluate the aforementioned projects on the basis of their similarity, methodology, quality and output. The procuring agency may require additional information or request to view software, if deemed necessary.

(iii) **Relevant Support and Maintenance Experience of Turn-Key Solution for Up-gradation of Hospital Management Information Software through Integrated Module / System** **[8 Points]**

Bidder should have prior experience of providing on Site / Off Site Support and Maintenance Experience of Turn-Key Solution for Up-gradation of Radiology Information System. The procuring agency shall evaluate aforementioned experience based on length of experience and similarity of projects handled to current Scope of Services.

(iv) **Quality of Methodology, Work Plan:** **[7 Points]**

The bidder shall submit working methodology, work plan and time schedule for provision of the required services. The procuring agency shall evaluate the methodology on the following parameters:

- Working methodology is clear and responds to Scope of Services **2 Points**
- Work Plan provides a detailed activity list **2 Points**
- Sufficiency of staff and other resources to carry out execution on intended scale **2 Points**
- Time Schedule is aligned with the timelines of project **1 Point**

B. PRODUCT EVALUATION:

S#	PARAMETERS	SUB-PARAMETERS	MARKS
1.	Conformity to the Purchaser's Specifications	Fully compliant with the required specifications	10
		Compliant with minor deviation (upto 10% subject to main function is not affected)	8
2.	Product Certification	ISO certification	4
		US FDA certification	3
		CE certification	3
TOTAL MARKS			20

C. BIDDER EVALUATION:

S#	PARAMETERS	SUB-PARAMETERS	MARKS
3.	Legal Requirement	Manufacturer Authorization / Dealership Certificate	5
		Taxation Certificate (IT and GST/SST)	5
4.	Networking and Training	Networking setup across India (1 mark for each setup upto maximum 5)	5
5.	Delivery	4- 6 Weeks or earlier	5
		7-12 Weeks or earlier	2
6.	Past Experience/ Performance	Certificate of satisfactory performance of installations in last five years from Head of the institution or designated authority by him/her (1 mark for each installation)	5
7.	Financial status	Bank Certificate	3
		Last year verified Balance sheet	2
TOTAL MARKS			30