

Reply of Pre Bid meeting held on dated 12/04/2017 for SCI (IGIMS) Project

Project: Construction of State Cancer Institute Building along with supply, Installation, commissioning and maintenance of various Biomedical Equipment's at IGIMS Campus Patna, Bihar

Prebid Queries

Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply
Commercial							
1	Tender Document - NIT	3		Time of Completion of Work	Time of completion of work - 18 months.	Considering the scope of work, piling works involved various specialized Agencies involved, congested site location; 18 months for completion will not be sufficient. Request you to provide 24 months for completion of works.	As per Bid document
2	Tender Document - ITT GCC & SCC	21	10	Escalation	No claim on account of any price variation / escalation on whatsoever ground shall be entertained at any stage of work.	As per CPWD guidelines, for any project, if the duration is more than 12 Months clause 10 CA & 10CC is applicable. As the duration of this tender is 18 Months, we request you to include Clause 10 CA & 10CC to enable us to submit our competitive bid.	As per Bid document
3	Tender Document - ITT GCC & SCC	5	NIT - Cl 2	Eligibility Criterion	Similar Works" shall mean composite construction of Hospital Building along/Cancer Building/Life Science Research/Biotech Laboratory or similar R & D facilities (for Hospitals) with including Medical equipment's supplied, installed and commissioned for Government, Semi-Government, PSU or reputed Private firms / Organizations	Request to change as " Similar Works" shall mean composite construction of Hospital Building/Cancer Building/Life Science Research/Biotech Laboratory or similar R & D facilities (for Hospitals) with including Medical equipment's supplied, installed and commissioned for Government, Semi-Government, PSU or reputed Private firms / Organizations	Accepted
4	Tender Document - ITT GCC & SCC	10 & 32	15 & Clause -1 A	Retention Moneyto deduct a sum at the rate of 10% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit @5% of the tendered value of the work. Such deductions will be made and held by IGIMS by way of Security Deposit unless he/ they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Govt. Securities or fixed deposit receipts.	Retention of 5% from each running bill will affect the Cash flow of Contractor. Hence we request you to maintain retention as per clause 1A of CPWD GCC-2014; i.e. 2.5% of gross amount of RA Bill to be deducted from each RA Bill, till the sum deducted amounts to 2.5% of the Tendered Value. Further the security deposit as deducted above can be released against Bank Guarantee, on its accumulation to minimum of Rs. 5 Lakh.	As per Bid document
5	Tender Document - ITT GCC & SCC	10 & 18	Clause 12 of ITT	Rate to include all taxes	Rate shall include Sales Tax, Excise Duty, Octroi, Royalty or any other Tax, duty of levy on materials to be supplied by the Tenderer in respect of this contract shall be payable by the Contractor and the Director IGIMS will not entertain any claim whatsoever in this respect. The quoted rate shall be inclusive of all such taxes and be complete.	It is understand that the estimated unit prices of Group A items are excluding the service tax, labour cess, ESIC, PF output VAT. We propose that the above taxes shall be reimbursed to the Contractor at actuals. Therefore bidder should exclude the above taxes. Please confirm.	As per Bid document
6	Tender Document - ITT GCC & SCC	36	Clause -2	Compensation for delay	0.5% per Month of delay subject to maximum of 10%	Request to change as "Liquidated damage shall be at the rate of 0.5% of the value of the unfinished work per Month of delay up to a max of 5% of the total contract value	As per Bid document
7	Tender Document - ITT GCC & SCC	36	6	Measurement of Work done		We presume that the Mode of Measurement for the work done shall be followed as per IS 1200 code of practice	As per PWD/CPWD/ Project Tender document Norms mode of measurement can be taken

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8	Tender Document - ITT GCC & SCC	38	7	Payment on Intermediate Certificate	Payment on account of amount admissible shall be made by the Engineer-in-charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. All such interim payments shall be regarded as payment by way of advances against final payment only	<p>Release of payment is not mentioned.</p> <p>Request to include payment clause as given below.</p> <p>a) For Civil Structure, Architecture & Electro Mechanical works. The amount which is due in respect of each statement other than the final statement shall be paid as</p> <p>i) 75% of monthly invoice shall be paid within 7 days of from the date of submission of monthly invoice</p> <p>ii) balance 25% shall be paid within 21 days of from the date of submission of Monthly invoice including Certification.</p> <p>b) For Medical Equipment</p> <p>i) On approval of medical Equipment specifications -15%</p> <p>ii) Opening of LC -65%</p> <p>iii) Supply and installation of medical equipment's (Substantial Completion) -15%</p> <p>iv) Successful commissioning of medical equipment's and Trial run of the system -5%</p> <p>Please confirm.</p>	As per Bid document
9	Tender Document - ITT GCC & SCC	39	9	Payment of Final Billwill as far as possible be made within six months from the date of receipt of the bill by the Engineer-in-charge or his authorized representative	Request to reduce the period as 2 months instead of 6 months	As per Bid document
10	Tender Document - ITT GCC & SCC	40	10B (i)	Secured Advance	75% of the assessed value of material	Request to provide 90% of the assessed value of material as secured advance	As per Bid document
11	Tender Document - ITT GCC & SCC	40	10B (ii)	Advance	Mobilization advance not exceeding 5% of the estimated value and P&M advance not exceeding 5% may be given bearing a simple interest rate of @ 14% per annum, if requested by the contractor in writing within one month of the order to commence the work.	We request you to provide 10% Mobilization Advance @ a simple interest rate of 10% per annum, as per CPWD clause 10 B (iv) (interest & recovery) in single installment.	Mobilization advance not exceeding 5% of the estimated value and P&M advance not exceeding 5% may be given bearing a simple interest rate of @ 10% per annum, if requested by the contractor in writing within one month of the order to commence the work.
12	Tender Document - ITT GCC & SCC	Schedule page 63	F Clause 7	Minimum value of interim payment	Minimum amount eligible for interim payment is Rs 3 Cr/-	We request you to remove the limit for minimum Bill value for first 3 RA Bills and last 3 RA bills.	Accepted
13	Tender Document - ITT GCC & SCC	Schedule page 64	F	Liquidated Damages	Mile Stone based Liquidated Damages	We request to remove the Clause for Mile stone based LD. LD shall be applicable on over all completion only.	As per Bid document

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14	NIT CUM Tender Documents - Volume -1 - ITT & SCC	9 & 66	11 & 3	Water & Power	Director IGIMS does not warrant supply of electrical, water or other utility services. Tenderer is deemed to have allowed for alternative stand by services at his own cost to ensure work progress is not suffered on this account.	We request you to provide us Construction Power at one point on chargeable basis. Distribution arrangement will be done by us. We presume that Bore well will be allowed inside the site. Please confirm.	As per Bid document
15	NIT CUM Tender Documents - Volume -1 - SCC	Volume 1 SCC page 73	SCC clause 67	Space for Temporary Infrastructure	The contractor shall be provided adequate area for construction of storage/ office space for his use.	We understand that the space for the temporary Infrastructure will be provided free of cost within the site premises or near by, for the following, 1. Batching Plant 2. Labour Colony 3. Site Office 4. Stores, Workshop, Material yard and other Amenities required for execution. Please confirm.	Available space will be provided free of Cost
Civil							
16	Soil Investigation Report		General		Soil Investigation Report	Request to provide soil investigation report.	Refer Annexure - 1
17	NIT CUM Tender Documents - Volume -1 - SCC	Volume 1 SCC page 85	SCC clause 76	Shifting of existing Utilities	If required, the contractor has to do site clearance, enabling work, barricading, diversion of Roads, shifting/ realignment of existing utility services, drains, mullahs etc. at his own cost as per direction of Engineer-in-charge and the contractor shall not be entitled for any extra payment whatsoever in this regard.	Without knowing the details of these type of unknown works, the contractor cannot estimate the cost of these items. Hence request you to either a) provide as built drawings of the existing utilities and other works or b) these items will be executed on item rate basis	Only Re alingment of existing services will be executed on item rate basis.
18	NIT CUM Tender Documents - Volume -1 - SCC	Page 86	81	Minimum machinery at site	Minimum P & M requirement 1) Batching plant electrically operated with automatic load cell weigh batching system (30 cum capacity per hour -1 No) 2) Tower Hoist with winch machine (750kg gross load and height Up to 110 ft. - 2no)	Based on the bill of quantities, minimum P & M requirement list provided in the tender document is high. Contractor shall be allowed to mobilize the necessary equipment based on the site requirement irrespective the given minimum plant & machinery	Accepted
19	General	-	-	Drawings	Very few drawings in pdf format are provided	Please provide detailed drawings for Architectural, structural plan, elevation & section, including MEP works.	Can be collected from the office of SE,IGIMS
20	General	BOQ - Group A		BOQ - Group A (Percentage rate over)	Permissible limit up to 10% (" High" or " Low")	Estimates for Centering & Shuttering, Cement concrete works are comparatively low when compared with the market prevailing prices. Hence we request you allow us to quote any % above or below the estimate.	Accepted
PHE							
21	BOQ- Group C Items			Group Comprehensive Annual Maintenance Contract	C- Comprehensive Annual Maintenance Contract as mentioned above should cover the Complete System. Complete System should include the basic unit and allied supporting components like UPS (including battery), stabilizer Computer System Printer, De-ionizer, Dehumidifier etc to be supplied by the bidder along with basic unit.	We presume that Comprehensive Annual Maintenance Contract is for Medical equipments only and not for PHE items. Please provide the detailed List of Items to be covered under Comprehensive Annual Maintenance.	Comprehensive Annual Maintenance Contract is for Medical equipments only
Electrical							
22		Page 28 of 109	01NITCUM TENDERDOC	d. Comprehensive Annual Maintenance Contract	The cost of CAMC, accessories spares, and consumables as in case may be quoted along with taxes applicable, if any. The taxes to be paid extra, to be specifically indicated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.	We presume that CAMC for MEP Works are not part of this contract please confirm.	Confirm (This is only for Medical equipment and its allied work only)

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23		Page 49 of 109	01NITCUM TENDERDO C	Clause – 17 Contractor Liable for damages, defects during maintenance period :-	If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road curb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever of if any defect, shrinkage or other faults appear in the work within Thirty six (36) months	Request you to kindly confirm whether we can consider standard DLP of 12 months as per CPWD specification.	As per Bid document
24		Scheduled Items - Group A	BOQ - Group A - Electrical Works	BOQ		Delhi Scheduled Rates (DSR) reference numbers are not available in the BOQ for Group A items. Request you to kindly furnish the same.	Kindly make your analysis as per description given in BOQ
25		Scheduled Items - Group A SI No 138	BOQ - Group A - Electrical Works	Point wiring in PVC conduit, with modular type switch	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, with modular switch, modular plate, suitable GI box as required. Group C	Request you to kindly provide the average lengths to be considered for Group C	Since it is a schedule item, hence work can be carried out as per CPWD Specification.
26		Scheduled Items - Group A SI No 140	BOQ - Group A - Electrical Works	Power Plug wiring in PVC Conduit (4 x 4 Sq.mm)	Wiring for light/ power plug with 4 x 4 sq. mm FR PVC insulated copper conductor single core cable in surface/ recessed PVC conduit along with 2 No 4 sq. mm FR PVC insulated copper conductor single core cable for loop earthing as required.	Unit of measurement is specified as "points" as per BOQ. Where as the rate specified is seems to be for "Running Metre" Kindly clarify the unit of measurement.	Can be considered as meter
27		Scheduled Items - Group A SI No 184	BOQ - Group A - Electrical Works	End Termination of Cables	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.	Request you to kindly confirm whether single compression or double compression gland to be used for LT cable termination	Double Compressor
28		Non Scheduled Items - Group B SI No 59 2.1	BOQ - Group B - Electrical Works	CIRCUIT CUM POINT WIRING	Primary point controlled by one MCB.	Request you to kindly provide the average lengths to be considered for primary points	Since it is a schedule item, hence work can be carried out as per CPWD Specification.
29		Non Scheduled Items - Group B SI No 59 2.2	BOQ - Group B - Electrical Works	CIRCUIT CUM POINT WIRING	Same as item above but Secondary point. i.e. Points to be looped with Primary point.	Request you to kindly provide the average lengths to be considered for looped points	Since it is a schedule item, hence work can be carried out as per CPWD Specification.
30		Non Scheduled Items - Group B SI No 75	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x31.0W (Nominal) LED 2ftx 2ft Recess Mounted Luminaire with diffuser (Cat no- Wipro Lighting CRCO10R038HP57G1 or equivalent as specified in the approved list of make.).	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
31		Non Scheduled Items - Group B SI No 76	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x18W LED tube light	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
32		Non Scheduled Items - Group B SI No 77	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x15.0W (Nominal) Surface mounted square LED slim panel (Cat no- Wipro Lighting LD81-131-XXX-60-SM or equivalent as specified in the approved list of make.).	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.

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33		Non Scheduled Items - Group B SI No 78	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x12.0W (Nominal) 2FT LED Batten (Cat no- Wipro Lighting LL20-111-XXX-60-XX TrimLED or equivalent as specified in the approved list of make.).	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
34		Non Scheduled Items - Group B SI No 79	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x27.0W (Nominal) Recess mounted circular LED downlighter (Cat no- Wipro Lighting CRDL11R033HP57 or equivalent as specified in the approved list of make.).	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
35		Non Scheduled Items - Group B SI No 80	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	SITC of 1x17.1W (Nominal) Surface mounted circular LED downlighter (Cat no- Wipro Lighting CRDL11R033HP57 or equivalent as specified in the approved list of make.).	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
36		Non Scheduled Items - Group B SI No 81	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES	Supplying and fixing 1x9 W Bulkhead PHILIPS MAKE FXC-101	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
37		Non Scheduled Items - Group B SI No 82	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES FANS	900 mm Sweep Ceiling Fan	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
38		Non Scheduled Items - Group B SI No 83	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES FANS	1200 mm Sweep Ceiling Fan	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
39		Non Scheduled Items - Group B SI No 84	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES FANS	300 mm dia Domestic Exhaust Fan	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
40		Non Scheduled Items - Group B SI No 85	BOQ - Group B - Electrical Works	G. SUPPLY & INSTALLATION OF LIGHTING FIXTURES FANS	450 mm dia Domestic Exhaust Fan	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
41		Non Scheduled Items - Group B SI No 115	BOQ - Group B - Electrical Works	EXTERNAL STREET LIGHTS AND SOLAR POWER PANELS ON GRID SYSTEM	1 X 70 SON - T W Fixture with lamp, accessories etc as approved by Architect.	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
42		Non Scheduled Items - Group B SI No 117	BOQ - Group B - Electrical Works	EXTERNAL STREET LIGHTS AND SOLAR POWER PANELS ON GRID SYSTEM	Supply, fixing, testing & commissioning of the Gate Lighting Fixture equivalent to Philips cat no. Metronomoids CDS 570 including 1 no. 150 watt CDM-T MH lamp along with ignitor, necessary brackets, including connections ,required wiring ,conduit , as required.	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.

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43		Non Scheduled Items - Group B SI No 118	BOQ - Group B - Electrical Works	EXTERNAL STREET LIGHTS AND SOLAR POWER PANELS ON GRID SYSTEM	Supply, fixing, testing & commissioning of the bollard Lighting Fixture equivalent to Philips Cat. No. BCP 150 Bollard including 1 no. 8 watt LED lamp of approved shade along with ignitor, necessary brackets, including connections,wiring,conduit ,civil works as required and complete in all respect as per direction of engineer in charge.	Aesthetic finish may vary from model to model. Hence, request you to kindly specify the model number for this line item from each of the approved makes	To be finalised at the time of execution.
44		ELECTRICAL Page 653 of 659	02TECHNICALSPECIFICATION PREFERRED MAKES OF MATERIALS	B. ELECTRICAL SYSTEM/ PANELS SI No 15. LT PANEL	Approved makes specified for LT panels are L&T / Schneider Electric/ SPC Electroteck/ ABB/	We presume that authorized system integrators (panel builder) of these OEMs (L&T / Schneider Electric/ ABB) are also accepted for LT Panels Please confirm.	Make shown are only Panel builder.
45		ELECTRICAL Page 659 of 659	02TECHNICALSPECIFICATION PREFERRED MAKES OF MATERIALS	B. ELECTRICAL SYSTEM/ PANELS SI No 4. RISING MAINS / BUS DUCT	Approved makes specified for RISING MAINS / BUS DUCT are ABB/ SPC Electrotech /Schneider / Legrand	Request you to kindly include make"L&T" in the list of approved makes for RISING MAINS / BUS DUCT	Accepted
46		ELECTRICAL Page 654 of 659	02TECHNICALSPECIFICATION PREFERRED MAKES OF MATERIALS	D. CONDUITING & WIRING ACCESSORIES SI No. 4 Plate Type - Switches / Sockets / TV & Telephone Sockets And All Other Wiring Accessories	Approved makes specified for wiring accessories are M.K/ Legrand/ Anchor-Roma/ABB	There are various models of different price range are available for each of the approved make. Request you to kindly specify the model to be selected from each of the approved make.	To be finalised at the time of execution.
47		ELECTRICAL Page 655 of 659	02TECHNICALSPECIFICATION PREFERRED MAKES OF MATERIALS	E. LIGHTING DBS & MCBS SI No. 3. ELCB / ELMCB / RCCB	Approved makes for MCB are L&T/ABB/ Legrand/ Merlin Gerin Approved makes specified for ELCB / ELMCB / RCCB are ABB/GE/ Hager/ Merlin Gerin	we presume that makes specified for MCBs are also approved for ELCB / ELMCB / RCCB & MCB DBs Please confirm	Accepted
HVAC							
48		68	01NITCUM TENDER DOCUMENTS FOR CONTRACT & Clause.19	SAMPLE Approval	19. The contractor shall submit to the Engineer-in-charge samples of all materials for approval. Such samples of materials which affect aesthetics of the work shall also be got approved from the Engineer-in-charge/ Architect of the project before procuring bulk supplies. These approved samples shall be preserved and retained in the custody of the Engineer-in-charge as standards of materials till the completion of the work. The cost of such samples shall be borne by the Contractor and nothing shall be payable on this account over the Agreement rates.	Samples shall be submitted for the HVAC visible items inside the Conditioned Space like Grilles & Diffusers & Valves only. Please Confirm.	Description is very clear and it is related to Aesthetics look only.

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49		78-80	01NITCUM TENDERDO C, SPECIAL CONDITIO NS FOR CONTRACT & Clause.94	Witnessing of Tests by the Engineer-in-Charge	The Contractor shall make under the direction and in the presence of Engineer-in-charge, such tests and inspections as have been specified or as the engineer-in-charge shall consider necessary to determine whether or not the full intent of requirements of the specifications and the other related contract documents have been fulfilled. In case the work does not meet the full intent of the specifications and the other related contract documents it shall be rectified by the Contractor at no extra cost and the Contractor shall bear all the expenses for any further tests considered necessary.	Please provide us the list of items/Equipment's to be witness tested by Engineer in Charge along with the testing procedures to be followed.	To be decided by Engg in Charge at the time execution of work.
50		80	01NITCUM TENDERDO C, SPECIAL CONDITIO NS FOR CONTRACT & Clause.95	Inspection of materials & Equipment	The Contractor before supplying of any materials/ equipment shall give a inspection notice well in advance for inspection & testing of the same at the manufacturing units/ shop. The expenditure on account of TA/ DA of inspecting officials of IGIMS & Representatives of Ministry & Consultants for the inspection of the said items shall be borne by the contractor. However, inspection report issued by the inspecting officials IGIMS does not waiver of quality /performance of equipment & due quality/performance & successful commissioning of equipment is the responsibility of contractor.	Please provide us the list of items/Equipment's to be Inspected by Engineer in Charge at Manufacturers Works.	To be decided by Engg in Charge at the time execution of work.
51		657-659		HVAC APPROVED MAKES OF EQUIPMENT & MATERIALS		Please provide the List of approved makes for the below items: 1. Propeller Fan 2.PVC Pipes 3.Laminar Flow Plenums 4. Insulation: EPS	1. Khetan, Varun, Alxtorm 2. Astral, Ashrivad, Finolex 3. Corian, AAF, Thermadine 4. Beardsell, Styrene packaging
ELV & FPS							
52			S.No.57 of Group B of Sub head A Fire Fighting of BOQ	Sprinkler Flexible Drop	Providing & fixing in the false ceilings, high pressure metallic hose with fittings (25 NB at one end for connection to pipe and 15 NB at the other end for the Sprinkler) for connecting the Sprinklers to Sprinkler piping system, Hose & Fittings to be UL listed or FM approved and installed in accordance with para 9.2.1.3.3 of NFPA-13 (2007 edition) Test Pressure 10.0 Kg/Sq.m.	Kindly clarify whether it is Unbraided type or Braided type.	Braided type
53				Fire Fighting System - List of Approved makes		Kindly provide us the List of approved makes for Fire Fighting System.	Refer Annexure - 2
54				Fire Fighting System -Schematic Diagram		Kindly provide us the Schematic Diagram for Fire Fighting System.	After Award of work detail drawing can be provided.
55				ELV System- Schematic Diagram		Kindly provide us the Schematic Diagram for Fire Alarm System, CCTV, Access Control System, Public Address, Data networking , Telephone Networking and MATV System.	After Award of work detail drawing can be provided.
56				Eligibility Criteria		We understand your requirement of equipment experience is 30% of 80% of estimated cost Rs 118 Cr i.e Rs 28.36 Cr and In Case of JV the experience of Medical Equipment can be met by either of the JV partner. Pl confirm	Accepted As per Bid document
B 4. MDCT SCANNER 64 slices							
				Point No.	Original Bid	Change requested	
				Header	The whole-body CT-Scan system must have state of the art imaging	The whole-body CT-Scan system must have state of the art imaging software and true multitasking hardware capable to produce 64-slice images per rotation with the	

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56					software and true multitasking hardware capable to produce multi-slice images per rotation by 64-independent rows of detectors with the following minimum specifications.	following minimum specifications.	As per Bid document
57				A. Gantry	Aperture: 70 cm or more.	Aperture: 78 cm or more.	As per Bid document
58				B. X-Ray Tube	Tube current: 20-500 mA.	Tube current: 20 - 650 mA or more	As per Bid document
					Anode heat capacity: 5 MHU or more.	Anode heat capacity: 5 MHU or more or 0 MHU with 50 MHU equivalent.	As per Bid document
59				C. X-Ray Generator	Power: 60 kW or higher.	Power: 80 kW or higher.	As per Bid document
					Current Range: 10 - 500 mA or more with steps of 10mA increments.	Current Range: 20 - 650 mA or more	As per Bid document
60				E. Spiral-CT and image Quality	1. Detector-system: Physically, 64-independent rows of solid-state detectors, capable of producing high quality multi-slice images with large coverage.	2. Detector-system: capable of producing high quality 64-slice images with large coverage.	As per Bid document
61					4. Scan-time: 0.4 second or less for 360 degree rotation.	Scan-time: 0.35 second or less for 360 degree rotation.	As per Bid document
B 6. PET-CT SCANNER 64 slice							
62				Header	A latest technology whole body Positron Emission Tomography system that must have minimum 64 rows of detectors, acquiring 64 slices per rotation, DICOM Ready with true isotropic volume acquisition and sub millimeter resolution.	A latest technology whole body Positron Emission Tomography system that must be acquiring 64 slices per rotation , DICOM Ready with true isotropic volume acquisition and sub millimeter resolution.	As per Bid document
63				4:00 AM	System sensitivity: at least 7cps/KBq	System sensitivity: at least 5cps/KBq	As per Bid document
64				8 b.	Number of CT detectors: minimum 64 rows with 64 slice CT images per rotation	Number of CT detectors: Please mention the number of rows for minimum 64 slice CT images per rotation.	As per Bid document
65				9:00 AM	Generator: High Frequency type, Power output: 70 kW or higher	Generator: High Frequency type, Power output: 80 kW or higher	As per Bid document
66				9 d.	Maximum tube current of atleast 600 mA - mention range of mA in the offered scanner.	Maximum tube current of atleast 650 mA - mention range of mA in the offered scanner.	As per Bid document
67					6 Nos of Universal Treatment Base plate (All in One) Made of true Carbon Fibre..... have precise temperature control and have advanced alloy dispenser	The below requirement should be removed as they are obsolete items for the modern Linear accelerator with MLC for Mould room Facility & Immobilization Device. Digital water Bath :- Two set digital water bath system should be supplied. Shielding blocks and compensator filter device A computer controlled system for design and fabrication of shielding blocks, and tissue-compensating filters should be quoted. The system should mill (milling machine) or cut styrofoam blocks by software controls. The data for shielding block cutting should be either manually acquired or using film digitizer or by means of direct interfacing with 3-D treatment planning systems. It should be possible to make both simple non-divergent and accurately divergent shielding blocks. It should be possible to view the shielding block contours on a	As per Bid document
Part I of specification							
68				3.1	Electron Beam Energies Five clinically useful electron beam energies shall be provided. The lowest energy shall be 4 or 6 MeV and the highest energy shall be 16 MeV or above. Energy shall be specified as the most probable energy (E_p) of the electron energy spectrum at 100 cm from the accelerator exit window.	Five clinically useful electron beam energies shall be provided. The lowest energy shall be 4 or 6 MeV and the highest energy shall be 15 MeV or above. Energy shall be specified as the most probable energy (E_p) of the electron energy spectrum at 100 cm from the accelerator exit window. Reason: Elekta cannot offer electron energies more than 15MeV	Accepted
69				3.2	Field Size The electron beam size is defined by the inside dimensions of the electron beam applicators projected geometrically to a plane surface at 100 cm SSD. A range of field sizes from 4 x 4 cm to 25 x 25 cm is required. A method to obtain irregular field shapes shall be provided.	The electron beam size is defined by the inside dimensions of the electron beam applicators projected geometrically to a plane surface at 100 cm SSD. A range of field sizes from 6 x 6 cm to 25 x 25 cm is required. A method to obtain irregular field shapes shall be provided. Reason: Elekta don't make applicator with size 4x4 cm	Accepted
70				6.7.2	Two spare sets of green lasers shall be provided.	Please clarify whether it is 2 set of (8NO) green lasers or 2 green lasers?	Accepted

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Prebid Queries							
Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply
71			11.1.4		Silent Generator of 75 kVA should be provided and must be quoted separately.	Please clarify whether Generator need to be quoted as Optional item?	Deleted
Part II of specification							
72			1.1		The system should be integrated with, Simulator, CT-Simulator, MR/PET, cobalt machine and linear accelerator namely Varian 2300C/D capable of dynamic sliding window IMRT	The system should be integrated with, Simulator, CT-Simulator, MR/PET, and offered Linear Accelerators.	Accepted
73			2.7		EUD/TCP and NTCP calculations should be provided	TCP and NTCP calculations should be provided.	Accepted
74			3.2		Image data from CT/MRI slices must be transferred via film scanner, digitizer and direct from CT/MRI scanners, Simulators, RFA system and patient-specific QA system.	Image data from CT/MRI slices must be transferred direct from CT/MRI scanners, Simulators, RFA system and patient-specific QA system	Accepted
75			7.17		. Compensators	Not available feature in Elekta TPS	Accepted
76			8.1		TPS should include 3-D Pencil Beam, Anisotropic Analytic, Convolution and Superposition algorithms for dose calculations in 2-D and 3-D external beam applications with electron and photon beams. Monte Carlo, calculations algorithms, if available should be quoted.	TPS 3-D external beam applications should include latest algorithms like Anisotropic Analytic Algorithm (AAA) or Collapsed Cone Convolution (CCC) and Monte Carlo or Acuros for photons and with electron Montecarlo calculations algorithms. Reason: Latest algorithm	Accepted
77			11.1		System should be capable of doing both rigid and deformable image registration with all imaging modalities (CT/MRI/PET/CBCT) used in radiotherapy planning.	System should be capable of doing both rigid and deformable image registration with all imaging modalities (CT/MRI/PET) used in radiotherapy planning. Reason: CBCT deformation not possible in Elekta TPS	Accepted
78			12.12		Compensator shapes as equivalent thickness curves or profiles should be plotted at user defined scale	Requested to delete the clause: Reason: Elekta don't have Compensator interface	Accepted
79			13.4.10		Radiotherapy Compensators	Requested to delete the clause: Reason: Elekta don't have Compensator interface	Accepted
80			16.13		The Hardware should consist of the following: Two separate , but fully integrated servers, one each for data management and image management with back up with 2TB capacity or more to handle our busy department workload; 3 additional Image Workstations for Review and Approval; a networked color image DICOM laser printer; capability for high speed internet connectivity for Online Service support.	The Hardware should consist of the following: Fully integrated servers, for data management and image management with back up with 2TB capacity or more to handle our busy department workload; 3 additional Image Workstations for Review and Approval; a networked color image DICOM laser printer; capability for high speed internet connectivity for Online Service support. Reason: Elekta provides more advanced Integrated Server	Accepted
81			16.14		The separate radiotherapy picture archival and communication system (PACS) having latest technology hardware and software system should be provided as optional items. (price must be quoted separately)	Price quoted will be treated as Optional item?	Accepted
82	Low Energy Linear Accelerator (6MV)				Linear Accelerator technology requirements: <ul style="list-style-type: none"> • Energy 6 MV. • The machine MUST have the latest technology such as: • Klystron / Magnetron as the RF power source • Standing / Travelling Wave Accelerator guide • Dynamic beam steering • Digital dose control • Sealed /unsealed Ionisation chamber • Dose rate should be selected in fixed steps for • Efficient delivery of Stereotactic treatments - SRT & SBRT (VMAT based) and Intensity Modulated Radiotherapy treatments. • Computer controlled • Diode/Triode Electron Gun. Triode Gun is preferable. 	Linear Accelerator technology requirements: <ul style="list-style-type: none"> • Energy 6 MV. Any five electron energy with maximum energy 15 MEV or more • The machine MUST have the latest technology such as: • Klystron / Magnetron as the RF power source • Standing / Travelling Wave Accelerator guide • Dynamic beam steering • Digital dose control • Sealed /unsealed Ionisation chamber • Dose rate should be selected in fixed steps for • Efficient delivery of Stereotactic treatments - SRT & SBRT (VMAT based) and Intensity Modulated Radiotherapy treatments. • Computer controlled • Diode/Triode Electron Gun. Triode Gun is preferable. 	Accepted

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						Any five clinically usefull electron energies with maximum energies 15 Mev or more along with 5 applicators with sizes between 6x6 to 25x25cm2 and beam shaping moulds for irregular electrons.	Accepted
83	64 slice PETCT	PAGE 603 GENERAL			64 slice PETCT	PETCT with 64 row of CT detectors, enabling 128 slice CT for axial and helical modes. Year of introduction should be 2015 or later.	Accepted
84		PAGE 603		Technical Specifications for PET component	1. All specifications must comply with NEMA Standards Publication NU2-2007 Performance Measurements, without altering instrument parameters.	1. All specifications must comply with NEMA Standards Publication NU2-2012 Performance Measurements, without altering instrument parameters	Accepted
85	POINT NO. 16	PAGE 606			CT simulation for Radiotherapy planning- RT table top with Carbon Fiber Table Top with TG 66 compliance should be provided	CT simulation for Radiotherapy planning- RT table top with Carbon Fiber Table Top should be provided	Accepted
86		PAGE 606 POINT NO. 19			Hotlab Accessories c. Adequate lead bricks and enclosures with cover as per AERB requirement	Hotlab Accessories c. 100 lead bricks and enclosures with cover as per AERB requirement	Accepted
87	General Description (Point# 4):				At the end of irradiation for two hours, the 18F produced shall be around 8-10 ci (296-370GBq).	At the end of irradiation for two hours, the F-18 produced shall be around 2.5 - 3.5 Ci (92.5 GBq to 129.5 GBq)	Accepted
88	Point #20. B.:				Radiation Monitoring Systems • PM-11 Stack Monitor- 2 units • Stack Air Flow Meter- 2 units • Stack Monitoring Channel – 2 units	Radiation Monitoring Systems • PM-11 Stack Monitor- 1 unit • Stack Air Flow Meter- 1 unit • Stack Monitoring Channel – 1 unit	Accepted

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Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply	
89	tender document; B	Page 639,		10. Radiopharmacy and Radiation Safety Equipment	Sl. No. 1: Dual Hotcell vertical-2 units Sl. No. 3: Dispensing Hotcell System-1 (lead lined to house to dispense FDG in vials/ syringes) Sl. No. 5.: 11C Carbon RP synthesis Chemistry modules (Cassette based advance fully automatic 11 C RP synthesis modules) Sl. No. 7.: 68 Ge/68Ga generator elution & labeling module	B 10. Radio-pharmacy and Radiation Safety Equipment Sl. No. 1: Dual Hotcell vertical-1 unit Sl. No. 3: semi-automatic Dispensing Hotcell System-1 (lead lined to house to dispense FDG in vials only) Sl. No. 5.: request deletion. Sl. No. 7: request to make it optional or delete.	Accepted	
90	tender document	Page 639,		Radiopharmacy and Radiation Safety Equipmen	Sl. No. 1-5 (Radiation monitors)	Request deletion	As per Bid document	
91	tender document	Page 639,		Radiopharmacy and Radiation Safety Equipmen	Fumehood lead lined-1 unit Refrigerator horizontal- 1 unit Electronic Weighing scale-1 unit Pressure injector-1 unit Vertical Fumehood- 1 unit	Request deletion. Request deletion. Electronic Analytical balance-1 unit Request deletion. Request deletion	Accepted	
92	tender document	Page 640,		Radiopharmacy and Radiation Safety Equipmen	Radio-pharmacy and Radiation Safety Equipment 2. PET Dose Dispensing System The machine should be capable for small/medium vial productions (10 vials per batch) and, & for small syringe productions (3 to 5 ml syringes per batch).	2. PET Dose Dispensing System The machine should be capable for small/medium vial productions (10 vials per batch)	Accepted	
93	Page 641, tender document,	Page 641,			3. Chemistry Modules 2. II. 68 GaDOTA, PSMA: with &without pre-purification 2. III. C-11 Methionine 2. IV. 177 Lu &64 Cu DOTA. PSMA	Request to make it optional or delete. Request deletion Request deletion	Accepted	
94	Page 643-644, tender document	Page 643-644,			10. Horizontal deep Freezer: 12. Radioisotope Fumehood 15. pressure Injector	Request deletion Request deletion Request deletion	Accepted	
95		Page 645			PET RP transport boxes	Request deletion	As per Bid document	
MRI WITH SPECTROSCOPY								

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Prebid Queries

Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply
96	Main Introduction				The manufacturer/bidder must quote the latest „state of the art“ 1.5 Tesla MRI system or better, approved by FDA & European CE, as per the specifications below. Please mention the year of launch of the quoted model.	GE has quoted Signa Voyager our most latest, Wide Bore 1.5 Tesla. The system completely redefines the way MRI has been done from so many years. Signa Voyager a fine malgamation of novel hardware and software design that drives far better image quality while ensuring utmost patient care	As per Bid document
97	1. c) Homogeneity				(i) Best homogeneity possible should be given. Specify homogeneity in VRMS at 10 cm, 20 cm, 30 cm and 40 cm DSV and at maximum FOV achievable with the quoted scanner. (ii) Should be very good for Single voxel and CSI spectroscopy. Specify values (iii) Please specify the homogeneity at 40 cm FOV (guaranteed homogeneity).	(i) Best homogeneity possible should be given. Specify homogeneity in VRMS at 10 cm, 20 cm, 30 cm and 40 cm DSV and at maximum FOV achievable with the quoted scanner. homogeneity specification must less than 2.00ppm at 45 cm Field of view. (iii) Homogeneity at 40 cm FOV must be less than 1.00ppm (guaranteed homogeneity).	As per Bid document
98	3. Gradient System				ii) Minimum Gradient Strength should be 40 mT/m or more along each axis and a slew rate of 200 T/m/s in each axis.	ii) Minimum Gradient Strength should be 36 mT/m or more along each axis and a slew rate of 150 T/m/s in each axis.	As per Bid document
99	4. RF Transmitter, Receiver, Coils				v) Body array coil / Phased Array coil (stand alone or coil combination should give 32 Channel or more acquisition) If a single coil is not available with the vendor, then a combination of coils should be quoted (capable of single station Cardiac/ abdominal imaging), so that the resolution over 40 FOV is not compromised.	v) Body array coil / Phased Array coil (stand alone or coil combination should give 28 Channel or more acquisition)	As per Bid document
100	4. RF Transmitter, Receiver, Coils				(vi) Breast array coil (16 Channel or more) for MRI and MRS. In case biopsy is not possible with this coil, a separate coil for biopsy should be provided at no extra cost.	Breast array coil (8 Channel or more) for breast imaging, dynamic scan and MRS with Biopsy attachment.	As per Bid document
101	4. RF Transmitter, Receiver, Coils				vii) Two quantities of Shoulder array coil (8 Channel or more) (One Large size and one Small size)	one number 16 channel light weight large Flex coil to do HR shoulder imaging	As per Bid document
102	4. RF Transmitter, Receiver, Coils				(viii) Dedicated Wrist coil (8 Channel or more)	16 channel light weight small Flex coil to do HR wrist imaging	As per Bid document
103	4. RF Transmitter, Receiver, Coils				ix) Dedicated Ankle Coil (8 channel or more)	16 channel light weight small Flex coil to do Knee Imaging	As per Bid document

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Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply
104	4. RF Transmitter, Receiver, Coils				(x) Knee imaging (Transmit/Receive, 8 Channel or more)	16 channel light weight large Flex coil to do Knee Imaging	As per Bid document
105	4. RF Transmitter, Receiver, Coils				xi) Dedicated Peripheral angiography coil (32 Channel or more) for carrying out with high SNR and high spatial resolution for a coverage of 80 cm FOV or more.	appropriate coil for HR Peripheral Angiography	As per Bid document
106	4. RF Transmitter, Receiver, Coils				xii) Eye/ear coil	appropriate coil for HR eye/ear imaging	As per Bid document
107	4. RF Transmitter, Receiver, Coils				xiii) Endorectal coil (quantity-10)	we have offered 28channel body coils which is used for HR Prostate imaging.	As per Bid document
108	a) Host Computer and Array Processors				i) Latest state-of-art computer system with sufficient RAM (8 GB or more) and computational speed to match the single shot Echo Planar Imaging (EPI), interactive angiogram, multiplanar three-dimensional (3D) reconstruction	i) Latest state-of-art computer system with sufficient RAM (32GB or more) and computational speed to match the single shot Echo Planar Imaging (EPI), interactive angiogram, multi-planar threedimensional (3D) reconstruction	As per Bid document
109	b) Additional workstation – server enabled – single license with 3 clients				One workstation with colour TFT clinical grade monitor (19" or more) with evaluation capabilities (as required for all applications in the tender, section 7)	One/two Independent workstation with colour TFT clinical grade monitor (19" or more) with evaluation capabilities (as required for all applications in the tender.	As per Bid document
110	7. c) ADC, perfusion, etc				(iii) ASL quantitative analysis for 2D ASL and 3D ASL data	(iii) ASL quantitative analysis for 3D ASL data with Absolute CBF value.	As per Bid document
B.4 MDCT SCANNER 64 SLICE							
111	B) X-Ray tube:				Power: 60 kW or higher.	Power: 70kW or higher.	Accepted
112					Current Range: 10 - 500 mA or more with steps of 10mA increments.	Current Range: 10 - 600 mA or more with steps of 10mA increments.	Accepted
113					Anode heat capacity: 5 MHU or more.	Anode heat capacity: 7 MHU or more.	Accepted
114	G) Computer System & Monitor:				1 At least 21" (diagonally) high resolution TFT/ LCD color monitors (two nos.).	1 At least 19" (diagonally) high resolution TFT/ LCD color monitors (two nos.).	As per Bid document

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115					2 Latest high speed CPU (3 GHz or better) with at least 2GB RAM (expandable up to 4GB), independent Hard disc of 500 GB or more, 2 MB L2 cache (or better), CD-RW/ DVD archive facility, DICOM print Outlet.	2 Latest high speed CPU (3 GHz or better) with at least 32GB RAM (expandable up to 4GB), independent Hard disc of 500 GB or more, 2 MB L2 cache (or better), CD-RW/ DVD archive facility, DICOM print Outlet.	As per Bid document
116	Page no 24, Point no.3.				One Nuclear Medicine Clinical Specialist and One Medical Physicist will be sent for 4 weeks training in a developed Country to learn latest developments in advanced application of Cyclotron, new radionuclide for PET and latest radio pharmaceuticals at center of repute.	One Nuclear Medicine Clinical Specialist and One Medical Physicist will be sent for 2 weeks training in a developed Country to learn latest developments in advanced application of Cyclotron, new radionuclide for PET and latest radio pharmaceuticals at center of repute.	As per Bid document
117		PAGE 24 CLAUSE 3	CLAUSE 3		One Nuclear medicine Clinical Specialist and Medical Physicist will be sent for 4 weeks training in a developed Country to learn latest developments in advanced application of Cyclotron, new radionuclide for PET and latest radiopharmaceuticals at center of repute	One Nuclear medicine Clinical Specialist and Medical Physicist will be sent for 2 weeks training in a developed Country to learn latest developments in advanced application of Cyclotron, new radionuclide for PET and latest radio-pharmaceuticals at center of repute.	As per Bid document
118		PAGE 24 CLAUSE 4	CLAUSE 4		2 persons, (one each of Nuclear Medicine and one Medical Physicist) for PET radio-chemistry and PETradio pharmacy for 4 weeks training in a developed country in a Centre of Repute.	2 persons, (one each of Nuclear Medicine and one Medical Physicist) for PET radio-chemistry and PETradio pharmacy for 2 weeks each training in a developed country in a Centre of Repute.	As per Bid document
119		PAGE 24 CLAUSE 6	CLAUSE 6		Two qualified Equipment Maintenance Engineer to look in technical matter of maintenance/Application/Operational for 2 weeks training in a developed country in a Centre of Repute.	Two qualified Equipment Maintenance Engineer to look in technical matter of maintenance/Application/Operational for 1 weeks training in a developed country in a Centre of Repute.	As per Bid document

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Sr. No.	Volume Ref	Page No.	Clause No.	Description	As per Tender Document	Pre-bid Queries reply suggested	Client Reply
120		Page 25, ONSITE Engineer:	ONSITE Engineer:		Onsite Engineer: A factory trained Engineer from respective company should be posted at Institute for a period of One year's exclusively to assist in day to day operation and processing including maintenance of software and hardware for LINAC and Cyclotron. The company should have a factory trained engineer in Patna to maintain equipment's during the warranty period and during CAMC periods.	Onsite Engineer: <please remove the first part> & would request to change second part as below: The company should have a factory trained engineer in Patna/Kolkata to maintain equipment during the warranty period and during CAMC periods.	As per Bid document
121		Page 25 c. iii. Guarantee/ Warranty Terms:	c. iii. Guarantee/ Warranty Terms:		iii. All the equipment including the accessories supplied as per the technical specification as mentioned in the bidding document should carry comprehensive warranty (including all spares, accessories and consumables) for a period mentioned in this document in the first instance. During this period, the successful Bidder shall replace all defective parts / accessories /consumables and attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful Bidder during the period	We suggest removing the word consumables.	As per Bid document
122		page 27	point c. Xvii- The offered Warranty Includes--		The Bidder shall provide up-time warranty of complete equipment as mentioned in this document, the uptime being calculated on 24 (hrs.) X 7 (days) basis failing Warranty period will be extended for every additional day of down time equal to one week.	We suggest 1 day downtime = 2 day warranty extension	As per Bid document
123		page 28 1 d			d. During warranty period, bidder shall maintain and keep 95% uptime per year of the "Complete System" as per calculation given below: 1 Year = 365 days 95% of 365 days = 347 Days per annum	We suggest uptime 95% of 300 days = 285 Days per annum	As per Bid document

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124		Page 28, e &			e. The bidder shall compensate the uptime less than the specified above for every additional day of down time over and above 18 days stipulated above, warranty period will get extended by one week as penalty at no extra cost i.e. the extended penalty period will be equal to one week for every additional day of down time	Suggest consider extension of 2 days warranty extension for 1 day of downtime during warranty and cmc period.	As per Bid document
125		Page 29, Point no. g			g. In case, the bidder is not able to provide services (and the items / accessories is not functioning as the reason thereof) due to natural calamity (act of God), Political unrest, Riot and fire at the user site, then in such a situation the warranty period will be extended by the period for which the item / accessories could not be operated because of supplier not been able to provide services	Need to be removed.	As per Bid document
126	Radiation field Analyzer				The measurement of dose metric quantities viz. beam profile, PDD, TAR, TMR, off axis ratio etc of high and low energy photon beam with multiple electron beam of the medical linear accelerator, can be measure by automatically computer controlled system with the following specifications are required. All components comply with national and international regulations and software that runs under Microsoft Windows of latest version of window 10 (A compatible higher version , if available; CPU: i7). The system should suitable to measure pulsed radiation with fluctuation dose rate.		

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127					<p>Detectors:</p> <ul style="list-style-type: none"> • There should be water proof 0.01cc or less micro chamber measures of good resolution. The chamber specification should be quoted. The position accuracy should be 0.5 mm. • The positioning tool should be allow easy and exact positioning of the chamber' geometrical center in the central beam and at the water surface. • The detector unit driven by stepper motor and step length should be in steps of 0.1 mm. The scanning speed should be adjustable between 5 mm/s to 50 mm/s in small steps The system should allow simultaneous movement in available direction. • The Zero point, reference point and limit points of the different detector units should be stored be separately and permanently in the control unit. • Necessary water proof thimble ionization chamber 0.125cc or equivalent and plain parallel plate chamber 0.05cc water proof (for photon, electron and reference) with optimal cable length should be provided along with relevant valid calibration certificate . • A high precision dual channel electro meter and extension cable are should be quoted. 	<ul style="list-style-type: none"> • instead of only step by step technology Advance Scanning mode (continuous scanning mode) and micro levelling frame should also be included] 	Accepted
128	Water Phantom:				<p>The scanning volume should be large enough to scan and should not be less than 48X48X41 cm. material the wall thickness should be not less than 1.5 cm.</p> <ul style="list-style-type: none"> • To avoid bending of the tank's walls by water pressure and water absorption of the acrylic 	<ul style="list-style-type: none"> • It should be in rectangular shape because The draw back of a cylindrical design is fitting the square shaped FoV into a cylinder and hence field size positioning of the chamberrestrictions and off axis ratio limitations) • Most accurate and latest magnetostrictive technology used for most accurate 	As per Bid document
129	Water Reservoir:				<ul style="list-style-type: none"> o The water reservoir should be large enough to store the water and can be pump and drain to the water phantom as quicker as possible. o The weight of the whole assembly can be push or pull though the wheel with polyethylene or equivalent. o The lifting carriage should be electromechanically/elevating screw mechanism that keeps the height absolutely stable. o For TPR measurements the pump of the reservoir should drive automatically and electromagnetic valve makes sure that no water can flow from the phantom tank to the reservoir during automatic TPR measurement. o The water reservoir should have a safety circuit that avoids the dry pump running. 	<p>(tank size should be <200 ltr)</p>	As per Bid document

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130	Control Unit:				<p>automatically. REF software licenses should be provided for absolute dose measurement in the system.</p> <p>The RFA software shall have licenses for beam data conversion to the treatment planning systems. Besides these it shall also be possible to convert the curves / profiles into simple ASCII format and Excel format and transfer to other Windows applications.</p> <p>For the quality assurance and the clinical implementation of the various features of the linear accelerator, and for comprehensive QA of IMRT latest film dosimetry software along with a 16-bit advanced scanner shall be supplied. The scanner shall have excellent scanning qualities with long term stability and shall be from a reputed manufacturer who is in the field of radiotherapy film dosimetry. The scanner shall be able to handle an optical density range of 0 to 3.5 or better. Its geometric accuracy shall be better than 1% or 2 pixels in both the axes. The IMRT QA software shall be capable of analyzing the IMRT films using advanced tools such as Gamma analysis, isodose line super positioning, addition, subtraction, profile comparison, etc. Provide catalogue. The software up gradation must be provided free of cost during the warranty period. To configure the scanner into the RFA computer system, necessary hardware (like SCSI card) and software shall be provided. It shall be possible to import images in DICOM format into the system besides import and export of DICOM-RT objects like RT Image, RT Dose, and fluence. The system shall be</p>		As per Bid document
131	Computer:-				<p>o The latest version of windows computer should have all the latest feature with flat panel color monitor (21 inches),scanner and with printer/plotter (color),</p> <ul style="list-style-type: none"> • The Software: The software provide should be able to do complete Field analysis Q.A & verification of IMRT treatment planning. <p>o Measurements can be done against time, against a monitor signal or against reference chamber.</p> <p>o Within the moving range arbitrary points can</p>		As per Bid document

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132	Fluence Verification Device				<p>For easy verification of IMRT fluences and doses, a separate fluence/dose verification device/equipment shall be supplied. The department requires two numbers of this device. All the necessary software shall be supplied. The device must be based on ion chamber array giving the highest resolution possible with the software. The active volume of the chamber must be very less. It must be possible to do both photon and electron measurements. It must be compatible with the film dosimetry software supplied. Adequate amount of buildup materials of different thicknesses should be provided for measurements with different energy beams. It must be possible to do automatic temperature and pressure verification devices. Latest available technology should be quoted for the transferring of data from the detector array to the processing laptop computer. In addition to the cable based connection, cable less technology also to be quoted.</p>	<p>ONLINE patient dose verification device should be quoted. It should be able to perform machine QA parameters as per TG142 standards, with the hardware already available in the institute. There should be an option of comparing the measured machine QA data with the water phantom commissioning data. If the necessary hardware to measure the machine QA data is not compatible, the vendor should provide the necessary hardware along with the system. It should have the necessary modules to conduct an EPID QA, MLC QA and CBCT QA. Necessary hardwares needed for performing EPID QA, should be included, except the electrometer. Dosimetry training for the online dosimetry system should be provided for two physicist in an international centre of excellence. In addition to this, onsite training should also be provided. All the expenses for the training including visa, travel, accommodation etc should be borne by the vendor.</p> <p>The Detector for Online Treatment Monitoring should be ion chamber based for long term reliability and should be wireless and cable-free for easy utilization. It should be mounted and secured on the Linac gantry head for measurements during the actual patient treatment. It should have more than 1500 ion chambers with a resolution of 5mm or better in the central area.</p>	Accepted
133	<u>Facility & Immobilization Device</u>				<p>Carbon Fibre with Arm support for lower and Upper, Indexed Couch stoppers, knee rest for comfort of the patient and feet fix on the same base plate for Linac room and 2 Nos of identical as above Universal treatment base plate (All in One) Made of medium density with Arm support for lower and Upper, Indexed Couch stoppers, knee rest for comfort of the patient and feet fix on the same base plate for CT room and Mould room shall be quoted</p> <p>It shall be One for All, Immobilization devices having a total solution to treat Pediatric to Adult and capable of treating Head, Head & Neck, Breast, Thorax. Abdomen, Pelvic and extremists.</p> <p>The same Universal treatment base plate shall be upgraded by adding the thorax and abdomen bridges or compression Belt for frameless SBRT and two set of Thorax suppression and abdomen Belt to be provided.,</p> <p>The base plate must be made as per the Task group 176 recommendations.</p> <p>The same offered Universal treatment base plate shall also be used by adding appropriate accessories/ attachment made of carbon fibre to treat Head and Neck region 3D, IMRT, IGRT, VMAT , SRT/SRS (Frameless) 2 nos of such attachments along with appropriate Thermo Sheets 20 nos to be provided.</p>	(option for separate boards should also be included)	Accepted

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134	Digital water Bath-				<p>template printout for quality control, patient record, etc. Using the CT images as the input, the system should be capable of designing a 3-D missing tissue compensator. The designing should be based on 3-D calculation using CT pixel values. It should be possible to transfer the data from the treatment planning system by either direct link or by floppy disk.</p> <p>Positioning accuracy: \pm 0.5 mm Reproducibility: \pm 0.5 mm Dimensions of foam blocks: From a minimum of 20 cm x 20 cm x 2 cm to a maximum of 45 cm x 45 cm x 10 cm or more Maximum cutting area within one block: 40 cm x 40 cm Cutting accuracy: Better than 0.5 mm Focus to tray distance: Adjustable Connectivity with a computer Computer: Latest system configuration Backlit Digitizer: Minimum active area should be 50 cm x 50 cm, with 2000 lines per inch resolution Plotter: Flatbed A3 plotter. Plotting on tray should also be possible Block Casting System A block casting system should be quoted for filling the styrofoam milled using the above system with lead or low melting point alloy. The system should have a solid-state alloy melter with digital readout. It should have precise temperature control and have advanced alloy dispenser</p>	We request you to delete this clause Shielding blocks and compensator filter device completely)	accepted
135							<p>Wendor should be supply</p> <p>A) HIGH/LOW ENERGY LINEAR ACCELARATOR LATEST DOSIMETRIC REQUIREMENT</p> <ol style="list-style-type: none"> Farmer Type Ion Chamber-chamber volume (0.65ccm),graphite wall, water proof, TNC /BNC connector Large Universal Chamber holder for Famer type detector Cylindrical Chamber- for relative Dosimetry –CC13 ,volume 0.13ccm, water proof connector, Small Universal Detector Holder for Cylindrical Chamber-Two Reference detector holder for Cynlidrical chamber-one Parallel Plate Chamber ,0.05ccm, TNC/BNC Triax Universal Detector Holder for parallel Plate chamber Electrometer with different chambers- Appropriate Bulidup cap and

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136	10.3				10.3 Respiratory motion management systems such as 4D-CBCT based real-time intrafraction, 4D-MRI based real-time tumor tracking, respiratory controlled and/or gated and also 4D-Ultrasound based system for inter/intra treatment should be provided as optional items and their prices must be quoted separately.	We request you include in basic requirement instead of optional. Latest technology should be quoted.	As per Bid document
137	Dosimetry Equipment including			Radiation Analyzer- field	There should be water proof 0.01cc or less micro chamber measures of good resolution. The chamber specification should be quoted. The position accuracy should be 0.5 mm.	There should be water proof 0.01cc or less micro chamber measures of good resolution with calibration certificate. The chamber specification should be quoted. The position accuracy should be 0.5 mm.	Accepted
138					The detector unit driven by stepper motor and step length should be in steps of 0.1 mm. The scanning speed should be adjustable between 5 mm/s to 50 mm/s in small steps.	The detector unit driven by stepper motor and step length should be in steps of 0.1 mm. The scanning speed should be adjustable between 0.25 mm/s to 16mm/sec. Continues and adaptive scan mode scanning should be provided.	Accepted
139					Necessary water proof thimble ionization chamber 0.125cc or chamber 0.05cc water proof (for photon, electron and reference) with optimal cable length should be provided along with relevant valid calibration certificate	Necessary water proof thimble ionization chamber 0.125cc (2 nos) and chamber 0.05cc water proof (for photon, electron and reference) with optimal cable length should be provided along with relevant valid calibration certificate	Accepted
140	Water Phantom:				The scanning volume should be large enough to scan and should not be less than 48X48X41 cm.	The scanning volume should be large enough to scan and should not be less than 48X48X41 cm. for square tanks or 65diameter X40cm height for cylindrical tanks	Accepted
141					To avoid bending of the tank's walls by water pressure and water absorption of the acrylic material the wall thickness should be not less than 1.5 cm.	To avoid bending of the tank's walls by water pressure and water absorption of the acrylic material the wall thickness should be not less than 1.5cm for square tanks and 1.3cm for cylindrical tanks	Accepted
142					The velocity of the vertical of the vertical motion should be quoted and preferably should have two vertical velocities (slower & faster)	Should have appropriate vertical motion velocities	As per Bid document
143	Control Unit:				- Fine gains setting for each channel should also exist.	Fine gains setting for each channel should also exist. Or gain should be set automatically	Accepted
144					- The time constant should be shorter than 10 Mrs.	The time constant should be shorter than 30 Ms.	Accepted
145					The co-ordinates of the probe should display for all directions, simultaneously on a control pendant.	The co-ordinates of the probe should display for all directions, simultaneously on a control pendant or Software	Accepted
146					- The control pendent can be attached either to the water tank (inside the treatment room) or to the control unit (outside the treatment room).	The control pendent can be attached either to the water tank (inside the treatment room) or to the control unit (outside the treatment room).	As per Bid document
147					- The communication between the control unit and the computer should be performed by a standard RS 232 interface.	The communication between the control unit and the computer should be performed by a standard RS 232 interface or USB	Accepted
148					A stereotactic ion chamber detector shall be provided. Provide its characteristics and specifications. The chamber must be supplied with calibration certificate.	A stereotactic diode detector shall be provided. Provide its characteristics and specifications.	Accepted
149					The RFA computer system shall have Intel Xeon processors with at least 16 GB RAM, 2 TB hard disk space, 2 CD drives (out of which one shall be a DVD-Writer), at least 2 high speed USB ports, 21" TFT flat monitor, 256 MB storage capacity USB drive. A UPS system with 1 kVA capacity with 30 minutes backup time shall be supplied. A locally designed good quality mobile wooden rack (on strong wheels) for stacking the RFA control parts and computer shall be provided.	The RFA computer system shall have Intel Xeon processors with at least 16 GB RAM, 2 TB hard disk space, 2 CD drives (out of which one shall be a DVD-Writer), at least 2 high speed USB ports, 21" TFT flat monitor, 256 MB storage capacity USB drive. A UPS system with 1 kVA capacity with 30 minutes backup time shall be supplied. A locally designed good quality mobile wooden rack (on strong wheels) for stacking the RFA control parts and computer shall be provided. or a portable Laptop with atleast 15 inch monitor 8GB RAM, 1TB HDD, 2GB Graphic card, with minimum 2 hours battery back up to be provided	Accepted
150					REF software licenses should be provided for absolute dose measurement in the system.	REF software licenses and hardware should be provided for absolute dose measurement in the system.	Accepted
151							

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152					The RFA software shall have licenses for beam data conversion to the treatment planning systems. Besides these it shall also be possible to convert the curves / profiles into simple ASCII format and Excel format and transfer to other Windows applications.	The RFA software shall have licenses for beam data conversion to all the treatment planning systems in the market. Atleast 5 work station licenses should be provided. Besides these it shall also be possible to convert the curves / profiles into simple ASCII format and Excel format and transfer to other Windows applications.	Accepted
153	<u>Computer:-</u>				- The latest version of windows computer should have all the latest feature with flat panel color monitor (21 inches),scanner and with printer/plotter (color),	CAN BE REMOVED AS ALREADY OFFERED ABOVE	Accepted
154					Together with the hardware option "ionization chamber array" also beams from accelerators with multi-leaf collimator, dynamic wedges and motorized wedges can easily be measured.	Together with the hardware option "LINEAR ARRAY DETECTOR" also beams from accelerators with multi-leaf collimator, dynamic wedges and motorized wedges can easily be measured.	Accepted
155					The measuring speed should be adjusted automatically depending on the field size and the depth. Beam adjust measurement should be possible with the ion chamber array.	The measuring speed should be adjusted automatically depending on the field size and the depth. Beam adjust measurement should be possible with the Linear array detector	Accepted
156	<u>Administrative Data:-</u>				Depth dose curves can be analyses according to the protocols DIN 6800/2,IAEA TRS 398, ICRU35,CRMRI no 2, AAPM TH21,and NACP.	Depth dose curves can be analyses according to the protocols DIN 6800/2,IAEA TRS 398, ICRU35,CRMRI no 2, AAPM TH21, NACP and AERB	Accepted
157	Signal from the beam monitor chamber				For use with the Radiation Field Analyzer as external reference signal, an appropriate, modified if necessary, signal from the beam monist or chamber shall be provided. The mechanism shall be described in the bid.	Can be removed	As per Bid document
158	In-air Scanner				The vendor shall provide an in-air scanner for quick and convenient beam profiling in air. The in-air scanner shall be compatible in all respects with the latest computerized 3D water phantom scanner available in the department. It shall be possible to attach this scanner to the collimator of the linear accelerator treatment units. The vendor shall install and demonstrate for the functioning of the scanner.	CAN BE REMOVED	As per Bid document
159	Dosimetric Accessories			IMRT PHANTOM	For performing QA of IMRT, a latest, state-of-the-art water phantom (two numbers) shall be supplied. It shall be possible to do exposure of multiple films for high accuracy in IMRT verification. The phantom material shall be water / tissue equivalent. It shall have a universal design for film verification of Body, Head and Neck and Stereotactic IMRT treatment plans. It should be possible to easily adjust the phantom on the Linac couch and on CT scanners couch top to insert film sheets with a maximum size of 10 x 10 cm (or more) a. It shall be possible to do absolute dose verification with different ionization chamber types that are being offered against this tender. It shall be possible t several locations within the phantom for doing IMRT and SRS/ SRT dose verification. It must also be possible to position those (films) in a transversal, coronal or sagittal orientation. Appropriate markers shall be engraved on the surface of the phantom in different colors for its easy adjustment under the accelerator and in a CT scanner. Localizer plates for the use of the phantom in a CT scanner shall also be quoted. For absolute dose verification, it shall be possible	CAN BE REMOVED AS ADVANCED 4D DETECTOR ARRAY IS PROVIDED	As per Bid document

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160	Solid Water phantom for Linear accelerator Dosimetry				A solid, water equivalent phantom made up of slabs of different thicknesses shall be provided by the vendor for external beam teletherapy dosimetry. It shall be possible to use this phantom for both photon and electron beam dosimetry. The phantom shall be free of contaminants and air bubbles. Guarantee should be provided for electron density and homogeneity and shall be certified to be within 0.5% of water at photon energies. The slabs shall be of 40 x 40 cm size totaling a thickness of 50 cm. The exact details of the slab thickness and their quantities shall be obtained from the user department. Different slabs (of 2 cm thickness) with appropriate cavities to accommodate the two 0.6 cc ion chambers, parallel plate ion chamber, stereotactic chamber should be provided additionally. The mechanical specifications for these chambers may be obtained from the user department. The solid water phantom will not be accepted without these special 2 cm thick slabs to accommodate the different chambers. Please note that these special slabs are in addition to the simple, solid slabs totaling a thickness of 50 cm. The phantom shall be of rigid type	A solid, water equivalent phantom made up of slabs of different thicknesses shall be provided by the vendor for external beam teletherapy dosimetry. It shall be possible to use this phantom for both photon and electron beam dosimetry. The phantom shall be free of contaminants and air bubbles. Guarantee should be provided for electron density and homogeneity and shall be certified to be within 0.5% of water at photon energies. The slabs shall be of 30 x 30 cm size totaling a thickness of 30 cm. The exact details of the slab thickness and their quantities shall be obtained from the user department. Different slabs (of 2 cm thickness) with appropriate cavities to accommodate the 0.6 cc ion chambers, parallel plate ion chamber, stereotactic chamber should be provided additionally. The mechanical specifications for these chambers may be obtained from the user department. The solid water phantom will not be accepted without these special 2 cm thick slabs to accommodate the different chambers. Please note that these special slabs are in addition to the simple, solid slabs totaling a thickness of 30 cm. The phantom shall be of rigid type and should not show any kind of charge build-up effects. It shall not be affected by any change in ambient temperature and humidity.	Accepted
161	Fluence Verification Device				For easy verification of IMRT fluences and doses, a separate fluence/dose verification device/equipment shall be supplied. The department requires two numbers of this device. All the necessary software shall be supplied. The device must be based on ion chamber array giving the highest resolution possible with the software. The active volume of the chamber must be very less. It must be possible to do both photon and electron measurements. It must be compatible with the film dosimetry software supplied. Adequate amount of buildup materials of different thicknesses should be provided for measurements with different energy beams. It must be possible to do automatic temperature and pressure verification devices. Latest available technology should be quoted for the transferring of data from the detector array to the processing laptop computer. In addition to the cable based connection, cable less technology also to be quoted.	A state-of-art Ion Chamber/diode based array detector for complete verification of patient plans has to be offered. Necessary software with license for at-least 5 systems has to be provided. The Ion Chamber/diode Detector array should be of modular/integrated design with detectors with rotation symmetric response behaviour. The Ion Chamber/diode Detector array should be of vented ion chambers with 5mm x 5mm x 5mm or diodes with 0.8mmX0.8mm providing minimum field size coverage of 21x21cm. The Ion Chamber/diode based detector array should have minimum 1200 vented ion chambers/diodes and are arranged regularly across the complete field size minimum 21x21cm. The Ion Chamber/diode Detector array should have a resolution of 10 mm or less. The Ion Chamber/diode Detector array should use gold standard ionization chamber/ diode technology with exceptional accuracy and reliability for patient specific and routine linac QA. A dedicated software to achieve a very high chamber/diode resolution by combining the data measured 2 times (minimum 2500 measurement point) should be provided. Dedicated software should be provided for comparing Planned & measured IMRT/ VMAT or Dose Angles. Software should have option for 2D and 3D plan verification.	Accepted
162						Necessary insert plate has to be provided to insert thimble ionization chamber into the phantom for performing point dose measurements at different points along the coronal planes. There should be a facility to insert films in the phantom as well.	
163						The phantom should be able to do various Machine QA tests like Flatness, Symmetry, Gantry angle QA, Gantry Speed QA, Gantry Starshot, MLC QA, Radiation and Mechanical ISO centre QA, etc. 3D DVH Analysis should be possible for the QA plan to determine voxel to voxel dose on the actual patient anatomy and CT. The algorithm used to calculate DVH should be well proven and atleast 5 papers to be submitted to provide the justification of its accuracy. DVH software should be able to provide accuracy within 5%. 1 nos Such device should be provided.	

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164	QA devices/software				Two sets of QA device that can perform daily QA like photon/electron energy checks; radiation field flatness, symmetry; output consistency, etc shall be provided. The detector instrument supplied shall get connected to a laptop (high resolution, high-end, 1 GB RAM, wide screen, at least 60 GB hard disk, DVD writer, Bluetooth technology, etc) that will be kept in the control console. One laptop must be provided with each such QA device. Permanent cabling must be laid between the control console area and the interior wall of the treatment room for all the three linac machines or alternately a reliable wireless connectivity can be provided. Appropriate software must be provided that can store analyze all the data, store them and report the data in a user friendly format. Provide comprehensive details on the systems offered.	1 set of QA device with licences for upto 5 linacs that can perform daily QA like photon/electron energy checks; radiation field flatness, symmetry; output consistency, etc shall be provided. The detector instrument supplied shall get connected to a laptop (high resolution, high-end, 1 GB RAM, wide screen, at least 60 GB hard disk, DVD writer, Bluetooth technology, etc) that will be kept in the control console. One laptop must be provided with each such QA device. Permanent cabling must be laid between the control console area and the interior wall of the treatment room for all the three linac machines or alternately a reliable wireless connectivity can be provided. Appropriate software must be provided that can store analyze all the data, store them and report the data in a user friendly format. Provide comprehensive details on the systems offered.	Accepted
165					Software (with two independent licenses) that can work on a laptop for validating monitor unit calculations of the treatment planning system shall be supplied. It should be easy to use for checking the validity of MU calculations for conventional photon beams, electron beams and as well as comprehensive IMRT (dynamic and static) beams. It should support all kinds of trays, wedges, dynamic wedges, blocks, cone inserts, SSD and SAD treatments, extensive printout capabilities, multiple treatment units, etc. It should have DICOM-RT licenses. It should be FDA approved with 510 k clearance. Provide all details.	CAN BE REMOVED	As per Bid document
166					Two calibrated digital thermometers, two digital barometers, two ion chamber based survey meters, two digital survey meter, one neutron survey meter shall be provided. All survey meters and the barometers shall have proper calibration certificates.	Two calibrated digital thermometers, two digital barometers, One ion chamber digital survey meter shall be provided. All survey meters and the barometers shall have proper calibration certificates.	As per Bid document
167	Water phantom for absolute dose measurement				Not mentioned in Tender	A complete water phantom for dosimeter (minimum size 30x30x30 cm) with water drain kit as well as a motorized depth dose system with remote control/readout shall be supplied. a software for remote operation from a PC in console should be provided. It shall have a precision mechanism for positioning the chamber horizontally and vertically. The total vertical travel shall not be less than 25 cm, with a mechanical resolution of 0.1 mm. Acrylic probe holders for all detectors shall be supplied along with this system. Holders for all chambers.	It is mandatory requirement of ARB,BARC (wender should be supply)
168					Not mentioned in Tender	Farmer Chamber with ADCL A 0.6cc Farmer type Chamber should be provided with absolute dose calibration certificate.	It is mandatory requirement of ARB,BARC (wender should be supply)
169					Not mentioned in Tender	Absolute dose electrometer with ADCL A dual channel electrometer should be provided to measure absolute dose. It should be provided with a absolute dose calibration certificate. A 20meter extension cable shall also be provided for the same.	It is mandatory requirement of ARB,BARC (wender should be supply)
170					Not mentioned in Tender	D10D20Phantom	It is mandatory requirement of ARB,BARC (wender should be supply)
171					Not mentioned in Tender	Brass built up caps for 6MV, 10MV and 15MV	It is mandatory requirement of ARB,BARC (wender should be supply)

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172	B9				3 sizes of Head Rest Carbon Fibre -8 Sets	3 sizes of Head Rest Carbon Fibre/ Low Density -8 Sets	Accepted
173	Breast Immobilization System				For treating breast patients, a carbon-fiber based immobilization system using side mountable	For treating breast patients, a carbon-fiber/ Low Density based immobilization system using side mountable	Accepted
174					Shielding blocks and compensator filter device	Can be removed	Accepted
175	High-Energy Linac (B7)					<p>We would like to state that the High-Energy Linear Accelerator is not a fully neutral one in terms of our Linac and have asked for certain items which does not cater to our Linac and also the necessary items like Portal Dosimetry (which is a must in a Varian Linac) has been pushed out of the specs which is very important for online and digital pre-IMRT QA for each and every patient which increases the precision and accuracy of treatments manifold. This specs is a bit old specs and does not guarantee the best available model/s to be quoted in this tender. As you are tendering in 2017, the technologies have advanced many times and the technical specs should be at par with the latest technologies available in the market.</p> <p>Just for your information please, the tender done by you last time for the State Cancer Institute had a neutral technical specs for the High-Energy Linear Accelerator in which all the vendors can participate and the specs demanded all the latest technologies to be quoted which is unavailable here. Its almost impossible to change this specs to elevate it to that level so that all the high-end and latest features / technologies can be quoted, hence referred the name of the last time tender above for the high-energy Linear Accelerator for your quick and easy reference.</p>	As per bid document & ammendment excepted in prebid in this context
176	Low-Energy Linac (B8)					<p>1. For the low energy Linac, request this following sentence to be omitted as our low energy Linac does not have it – “The offered model shall be upgradable to kV CBCT with 2D Radiography, 2D fluoroscopy, 3D CBCT and 4D CBCT and the same shall be quoted optionally”. This sentence influences the vendors to quote a High-Energy Linac instead of a low-energy Linac.</p> <p>2. Under the Dynamic Multileaf Collimator, please edit these below points as follows as per our low-energy Linac :</p> <p align="center">Average leaf transmission < 2.0% (within AERB limits) Maximum interleaf leakage < 3.0% (within AERB limits).</p> <p>3. Under the sub-head “Beam Matching”, please edit this sentence – “This Dual energy Linac should be beam matched with the quoted Triple high energy Linac” as “This single energy Linac should be beam matched with the quoted Triple high energy Linac”.</p> <p>4. Also we heard during the prebid meeting that our competition firm insisted to add the electron facility in this low energy Linear Accelerator. Just to add here that, no vendors have electron facility in the low energy Linear Accelerator as per our</p>	As per bid document & ammendment excepted in prebid in this context
177	HDR Brachytherapy (B3)					<p>Under the sub-head “Radiation Source and Transfer Mechanism”,</p> <p>1. Please change the number of Transfers per source to “5000 transfers per source or more” instead of “25000 transfers per source”</p> <p>2. Please edit the sentence - “The source cable should move forward with an accuracy of + 1mm and must be controlled by stepper motors” as “The source cable should move forward / backward with an accuracy of + 1mm and must be controlled by stepper motors”.</p>	Accepted

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178	General Terms					1. Uptime Guarantee should be 95% on (365 days – 13 National Holidays and 52 Sundays) = 95% of 300 working days only. 2. Penalty should be edited from 1:7 to 1:2 as we cannot give 7 days extra warranty for one day down of our machines.	As per Bid document

Note- CSSD, Modular OT, Kitchen & Laundry are not in BOQ hence no confusion regarding these specifications should arise