03-07-2018

Amendment No. 1

Sub: Amendment to the referred tender enquiry

Ref.: Tender Enquiry HITES/PCD/PMSSY-III/31/NRSG/18-19 dated 20/06/2018

The following changes are being incorporated in the above referred Tender Enquiry Document.

Section I

NOTICE INVITING TENDER (NIT)

For:

Sl. No.	Event Number (Rfx)	Item Name	Qty.	Tender Processing Fee incl. GST @18.00%	Earnest Money Deposit
16	3000002911	Mobile C-Arm Image Intensified With DSA	32	₹ 5,900	₹ 32,00,000

Read as:

Sl. No.	Event Number (Rfx)	Item Name	Qty.	Tender Processing Fee incl. GST @18.00%	Earnest Money Deposit
16-A	3000002911	C Arm	19	₹ 2,360	₹ 7,60,000
16-B	3000003137	C Arm with DSA	9	₹ 2,360	₹ 7,20,000
16-C	3000003138	C Arm Flat Panel	17	₹ 5,900	₹ 34,00,000

2. Tender timeline (for Sl. No. 16-A, 16-B, 16-C)**:**

Sl. No.	Description	Schedule
a.	Last date for receipt of Pre-bid queries	10.07.2018, 06:00 PM
b.	Pre-bid meeting date, time	12.07.2018, 11:00 AM

SECTION - VI

LIST OF REQUIREMENTS

For:

Sl. No.	Event Number (Rfx)	Item Name	Qty.	Warranty in years	CMC in years
3	3000002898	Microvascular/Aneurism Surgery Instruments Set	7	5	5
4	3000002899	Cranial Surgery Set	16	5	5
5	3000002900	General Neurosurgery Instrument Set	37	5	5
8	3000002903	Spine Surgery Set	15	5	5
16	3000002911	Mobile C-Arm Image Intensified With DSA	32	5	5
17	3000002912	Basic Microsurgical Instruments	9	5	5

Read as:

Sl. No.	Event Number (Rfx)	Item Name	Qty.	Warranty in years	CMC in years
3	3000002898	Microvascular/Aneurism Surgery Instruments Set	7	5	Not required
4	3000002899	Cranial Surgery Set	16	5	Not required
5	3000002900	General Neurosurgery Instrument Set	37	5	Not required
8	3000002903	Spine Surgery Set	15	5	Not required
16-A	3000002911	C Arm	19	5	5
16-B	3000003137	C Arm with DSA	9	5	5
16-C	3000003138	C Arm Flat Panel	17	5	5
17	3000002912	Basic Microsurgical Instruments	9	5	Not required

Section VII

Technical Specification

Schedule No. 01 - OT Table Electro Hydraulic (RFx. No. 3000002896)

Para	TENDER SPECIFICATION	READ AS
A.1	Multipurpose electro hydraulic with **manual override** mobile Table with divided leg section suitable for all major surgical procedures (surgery, OBG, Neuro, Ortho and Endoscopy), complete with 5cm mattress and corded handset	Multipurpose electro hydraulic with **manual/electric override** mobile Table with divided leg section suitable for all major surgical procedures (surgery, OBG, Neuro, Ortho and Endoscopy), complete with 5cm mattress and corded handset

Para	TENDER SPECIFICATION	READ AS
A.10	Table should have a narrow T-shaped base allowing optimum access and greater stability	Table should have a narrow base allowing optimum **access of c arm and greater stability**
A.12	It should have a stable construction with 4 nos Wheels of the base with large twin-disk castors for easy motion and manoeuvring (base braking by locking the twin-disk castors at the head end via a central foot pedal/ Hand control)	It should have a stable construction **with lockabe castors via a central foot pedal/ Hand control**
C.5	Maximum lateral tilt : 18 deg. (either sides)	Maximum lateral tilt : **15 deg**. (either sides)
C.8	Head section adjustment : -90 deg to + 45 deg	Head section adjustment : **+/-45 deg**
D.10	Accessories for operating in prone (including a radioluscent Wilson frame), sitting & lateral position	Accessories for operating in prone - **a radioluscent Wilson frame, gel pad for head, chest & feet - 1 each**
D.11	3 pin skull clamp with silicone or equivalent horse shoes for adult & pediatric sizes. Adult & Pediatric pins (2 no's each)	3 pin skull clamp with Adult & Pediatric reusable pins (2 sets each) and horse shoes for adult & pediatric sizes with table attachment
D.12	Head attachment for sitting position 1set	Cross bar with clamps for sitting position - **1 set**
D.13	Accessories stand (Arm stand) 1 set	**Deleted**
E	The table should be US-FDA or European CE BIS approved for the quoted model	The table should be US-FDA or European CE with 4 digit notified body no or **BIS or CE Declaration of conformity along with ISO 13485 from notified body for the quoted model**
BOQ.11	Accessories for operating in prone (including a radioluscent Wilson frame) - 1 set	Accessories for operating in prone - **a radioluscent Wilson frame, gel pad for head, chest & feet - 1 each**
BOQ.12	3 pin skull clamp with silicone or equivalent horse shoes for adult & pediatric sizes. Adult & Pediatric pins (6 nos each)	3 pin skull clamp with Adult & Pediatric reusable pins (2 sets each) and horse shoes for adult & pediatric sizes with table attachment (1 each)
BOQ.13	Head attachment for sitting position 1set	**Cross bar with clamps for sitting position - 1 set**
BOQ.14	Accessories stand (Arm stand) 1 set	**Deleted**

Schedule No. 02 - LED Head Light(RFx. No. 3000002897)

Para	TENDER SPECIFICATION	READ AS
7	Available with rechargeable battery option	Available with rechargeable battery **- 2 nos**
8	White light of 60,000 lux intensity. Color temperature should be less than 6000K.	White light of **55,000 lux intensity at source.** Color temperature should be **5000k or better**
10	Battery should run atleast 4 hrs. or more.	Battery should run atleast **3.5 hrs. or more.**

Schedule No. 03 - Microvascular/Aneurism Surgery Instruments Set (3000002898)

Para	TENDER SPECIFICATION	READ AS
3	The bidder should quote all instruments.	All instruments should be supplied from single manufacturer (80% of the instruments should be from same manufacturer) Undertaking from the principal manufacturer should be submitted for not manufacturing of balance instruments. Rest 20% items should also meet quality standards as asked in the tender Note: MAF is required only for principal manufacturer
		Added para:5. It should be non-magnetic.6. Instruments not exactly as per description below but with similar functionality will be considered.7. Tolerance of +/- 10% is acceptable for the all instruments where range is not mentioned
51	MVR KNIFE	**Deleted**
48	YASARGIL TITANIUM/PHYNOX MINI CLIPS, TEMPORARY STRAIGHT 5MM STRAIGHT 7MM CURVED 6.5MM STRAIGHT 5MM	YASARGIL TITANIUM/PHYNOX MINI CLIPS, TEMPORARY **(2 nos each)** STRAIGHT 5MM STRAIGHT 7MM CURVED 6.5MM STRAIGHT 5MM
55	CONTAINER WITH LID FOR STORAGE OF GENERAL INSTRUMENTS DIMENSIONS: 300-350MM X 250-300MM X 450-500MM	CONTAINER WITH LID FOR STORAGE OF GENERAL INSTRUMENTS **with silicone matt and suitable wire basket** DIMENSIONS: 300-350MM X 250-300MM X 450-500MM

Schedule No. 04 - Cranial Surgery Set (3000002899)

Para	TENDER SPECIFICATION	READ AS
1	All the instruments should be made of high grade stainless steel. **The quality of steel should comply with the DIN standards.**	All the instruments should be made of high grade stainless steel.
7	All instruments should be supplied from single manufacturer except certain patented or proprietary products.	All instruments should be supplied from single manufacturer (80% of the instruments should be from same manufacturer) Undertaking from the principal manufacturer should be submitted for not manufacturing of balance instruments. Rest 20% items should also meet quality standards as asked in the tender Note: MAF is required only for principal manufacturer

Para	TENDER SPECIFICATION	READ AS
8	The manufacturer should have a direct repair facility available in India.	**Deleted**
10	Instruments should meet the International Certification as per DIN EN ISO 13845:2001.	Manufacturer should meet the International Certification as per **ISO 13845**
94	Leyla Brain Retractor 2	Leyla Brain Retractor system a. Ball & socket joint for fixation on OT table b. Holding rod for fixation c. Coupling head for holding five flexible arms - 2 nos d. Flexible arm - 2 nos e. Fixation for two arms at skull - 2 nos f. Brain spatullas maleable 5mm & 10mm - 2 nos each
97	Fisch Hook - Scalp Flap Spring Retractor 2	**Deleted**

Schedule No. 05 - General Neurosurgery Instrument Set (3000002900)

Para	TENDER SPECIFICATION	READ AS
		Added para: 3. It should be non-magnetic. 4. Instruments not exactly as per description below but with similar functionality will be considered. 5. Tolerance of +/- 10% is acceptable for the all instruments where range is not mentioned
		Added para: 6. All instruments should be supplied from single manufacturer (80% of the instruments should be from same manufacturer) Undertaking from the principal manufacturer should be submitted for not manufacturing of balance instruments. Rest 20% items should also meet quality standards as asked in the tender Note: MAF is required only for principal manufacturer

Schedule No. 06 - Pneumatic Drill System(RFx. No. 3000002901)

Para	TENDER SPECIFICATION	READ AS
2	RPM: More than 75000	Max RPM: **More than 70000**
3	Operating Upto 100 to 200 psi - variable	Operating pressure **between 100 to 200 psi**
10	Accessories - Essential:	Accessories - Essential: **Should be from same manufaturer**

Para	TENDER SPECIFICATION	READ AS
10.a	Cable with hand piece – Convertible 1 No.	**Cable/hose** with hand piece – Convertible 1 No.
10. b	Motor Hose 2 Nos.	Motor Hose **1 No**
10.d.ii	Universal drill- perforator chuck : 2 nos	Universal drill- perforator chuck : **1 no**
10.f	Universal driver for K-wire : 01	**Deleted**
11	Consumables : -11.b – Lubricating oil 24 , 11.c – Cleansing liquid bottles 12, 11.d - Lubricating oil spray 12	11.b – Lubricating oil/diffuser - 20 nos , 11.c - Lubricating oil spray - 20 nos
	BOQ (1 to 10)	BOQ . 1. Pneumatic Drill System **- 1 set**

Schedule No. 07- ICP MONITOR (RFx. No. 3000002902)

Para	TENDER SPECIFICATION	READ AS
6	One-touch key operation	One-touch key/**touch screen** operation
8	Sensors and transducers with high reliabilty and permitting visual display of waveforms on designated monitors, . 20 number of skull bolt kits, and two reusable cables to be provided	Sensors and transducers with high reliabilty and permitting visual display of waveforms on monitor . 20 number of skull bolt & **catheter** kits, and two reusable cables to be provided BOQ to be amended accordingly
	BOQ	
BOQ. 2	Skull bolt kit 20 Nos.	skull bolt **& catheter kits - 20 nos**

Schedule No. 08 - Spine Surgery Set (RFx No: 3000002903)

Para	TENDER SPECIFICATION	READ AS
1	All the instruments should be made of high grade stainless steel. **The quality of steel should comply with the DIN standards.**	All the instruments should be made of high grade stainless steel.
7	All instruments should be supplied from single manufacturer except certain patented or proprietary products.	All instruments should be supplied from single manufacturer (80% of the instruments should be from same manufacturer) Undertaking from the principal manufacturer should be submitted for not manufacturing of balance instruments. Rest 20% items should also meet quality standards as asked in the tender Note: MAF is required only for principal manufacturer
8	The manufacturer should have a direct repair facility available in India.	**Deleted**
10	Instruments should meet the International Certification as per DIN EN ISO 13845:2001.	Manufacturer should meet the International Certification **as per ISO 13845**

Para	TENDER SPECIFICATION	READ AS
	STANDARD KERRISON PUNCH - 1 set 1 KERRISON 90DG-UP 2MM 180MM 1 2 KERRISON 90DG-DWN 2MM 180MM 1 3 KERRISON 90DG-UP 3MM 180MM 1 4 KERRISON 90DG-DWN 3MM 180MM 1 5 KERRISON 90DG-UP 4MM 180MM 1 6 KERRISON 90DG-DWN 4MM 180MM 1 KERRISON , IVD AND BONE RONGEUR SET	STANDARD KERRISON PUNCH - 1 set 1 KERRISON **40DG**-UP 2MM 180MM 1 2 KERRISON **40DG**-DWN 2MM 180MM 1 3 KERRISON **40DG**-UP 3MM 180MM 1 4 KERRISON **40DG**-DWN 3MM 180MM 1 5 KERRISON **40DG**-UP 4MM 180MM 1 6 KERRISON **40DG**-DWN 4MM 180MM 1 KERRISON , IVD AND BONE RONGEUR SET

Schedule No. 10 - Stereotactic Frame & Instruments(RFx. No. 3000002905)

Para	TENDER SPECIFICATION	READ AS
1	The main components of the stereotactic system should have a Cartesian frame and a semicircular arc, suitable for both adult and pediatric stereotaxy (for children over 2 years of age and compatible with X ray, CT, 1.5T and 3T MRI and its gantry.	The main components of the stereotactic system should have a Cartesian frame and a semicircular arc, suitable for both adult and pediatric stereotaxy (for children over **5 years** of age and compatible with X ray, CT, 1.5T and 3T MRI and its gantry.
4	The stereotactic system should be arc centered with a 190 mm radius, and based on Cartesian coordinate system conforming to the X, Y and Z nomenclature used in CT and MR Scanning.	The stereotactic system should be arc centered with a **160 mm or more** radius, and based on Cartesian coordinate system conforming to the X, Y and Z nomenclature used in CT and MR Scanning.
5	Numeric coordinate values (in millimeters) should be engraved on the frame and arc on both Sides to ensure maximal accuracy.	Numeric coordinate values (in millimeters) should be engraved on the frame and arc on **either Sides** to ensure maximal accuracy.
6	The posterior post should have three options of lengths -long, medium and short.	The posterior post should have three options of lengths -long, medium and short **or adjustable lengths**
9	CT and MR adapters along with base unit should be included in the system to secure and support the patient's head and should be adjustable to ensure a parallel scan plan without having to manipulate the gantry of the scanner.	CT and MR adapters along with base unit should be included in the system to secure and support the patient's head and should be adjustable to ensure a parallel scan plan without having to manipulate the gantry of the scanner. **The bidder should supply compatible adapters in consultation with the consignee**
10	The total accuracy of the frame should be minimum 0.7 mm.	The total accuracy of the frame should be **<= 1mm**
14	The Stereotactic system should have a dedicated CT table fixation, Adaptor, indicator box and for MRI should have a dedicated adaptor and indicator box. These should however not limit how low the frame may be mounted	The Stereotactic system should have a dedicated CT table fixation, Adaptor, indicator box or **CT/MRI compatible locator** and for MRI should have a dedicated adaptor and indicator box. These should however not limit how low the frame may be mounted
16	The Stereotactic System should have an option for	The Stereotactic System should have an option

Para	TENDER SPECIFICATION	READ AS
	testing its accuracy of the complete frame and arc with the target stimulator.	for testing its accuracy of the complete frame and arc with the target **stimulator/phantom**
22	Twist drill for twist burr hole through stereotactic arc of varying diameter from 2-3 mm: 3 nos.	Twist drill for twist burr hole through stereotactic arc of varying diameter from **2-3 mm +/-0.5mm: 3 nos.**
24	Simulation dummy to be provided	**Deleted**
25	Localization plates to provided for fitting on the cartesian frame.	**Deleted**
27	The system should have integrated software for fusion of C.T., MRI and PET images to perform CT, MRI and PET image fusion procedures.	The system should have **compatible software (free update during warranty period) with workstation** for fusion of C.T., MRI and PET images to perform CT, MRI and PET image fusion procedures.

Schedule No. 11- Universal Oximetry Monitor(RFx. No. 3000002906)

Para	TENDER SPECIFICATION	READ AS
2	Should be battery Operated with minimum of 1 hour battery backup.	Should be battery Operated with minimum of **30 minute** battery backup.
4	Should have display range of rSO2: 0-100%	Should have display range of rSO2: **1-99%**
9	System Should have **2 nos.** of light emitters.	System Should have light emitters.
11	System should have a refresh rate of 1.5 Sec.	System should have a refresh rate of **2 Sec.**
17(b)	ExtendedCablesforConnectingSensors(1Metreand 2 Meters) – 1 each	**Deleted**
17(c)	Hubtoconnectallsixsignalprocessor/Preamplifierchannels(atleast4meterslength)– 1no.	**Deleted**
19	System Should have capability of measuring rS02 **facilitating FTOE calculations**	System Should have capability of measuring rS02

Schedule No. 12 - Endonasal Skullbase Endoscope with Instruments(RFx. No. 3000002907)

Para	TENDER SPECIFICATION	READ AS
1	Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. (QTY. 1)	Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. **(QTY. 2)**

Schedule No. 13 - Transventricular Endoscope and instruments(RFx. No. 3000002908

Para	TENDER SPECIFICATION	READ AS
13	Instrumentation Set For Endoscopic Third Ventriculostomy (Treatment For Hydrocephalus Patients To Avoid Usage of Shunts), Colloid Cyst, Marsuplisation Of Archnoid Cyst And Multiple Biopsy From Ventricular Tumors And Cystic Fenestration with complete set of accessories	**Deleted**
14	Sterilization tray with silicon cushion pads **along with the basic video cart, rides on 4 antistatic dual wheels with locking brakes, 3 fixed shelfs, main switch integrated cable conduit in the video cart, Drawer unit with lock, 3 horizontal cable conduits, one with cable winding, two with 4-times Electrical subdistributer, 1 set of non- sliding stands for units, 1 TFT – Monitor arm for mounting on vertical beam.**	Sterilization tray with silicon cushion pads
		Added Para: Fogarty catheters for ETV - 20 nos

Schedule No. 14 - Endoscope HD camera System with Accessories(RFx. No. 3000002909)

Para	TENDER SPECIFICATION	READ AS
B.4	Should have Integrated Optical Zoom lens system.	Should have Optical Zoom lens system.
B.6	USB port for recording HD Videos	USB port for recording HD Videos **or External recorder**
B.8	High horizontal image resolution of more than 750 lines.	High resolution **1920 x 1080p**
B.16	Image sensor:3*1/2'' CCD-Chip.	Image sensor: 3 x1/3 Chip CCD
B.20	LENSE Integrated optical zoom lens ,f=25-50mm	LENSE : optical zoom lens ,f=16-28mm
B.23	Dimensions:Diameter 37*47mm, length 124mm.	**Deleted**
B.24	Certified to:IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601	**Deleted**
C	Xenon Light Source	**Xenon/LED** Light Source
C1	High intensity Xenon light source with spare Xenon lamp with external cold light source outside the endoscope with cable connector.	High intensity Xenon light source with spare Xenon lamp **or equivalent LED light source**
C2	High light intensity with 300watt Xenon Lamp.	High light intensity with 300watt Xenon Lamp **or equivalent LED light**.
C 5	Lamp type : Xenon lamp,300 watt	300 w xenon **or equivalent LED light source**
C9	Certified to IEC 601– 1, CE label according to MDD,	**Deleted**

Para	TENDER SPECIFICATION	READ AS
	protection class 1/BF	
D 2	Liquid Crystal Display.	**Deleted**
D 13	Compatible with 4:3,5:4,16:9 and 16:10 signal format display Picture in picture	Compatible with **16:9 or 16:10** signal format display Picture in picture
D 14	Certified to EN60601-1,UL60601-1,MDD93/42/EECProtection class IPX1	**Deleted**
		Added para: Bidder should supply compatible trolley from the same principal company for complete endoscopy system

Schedule No. 16-A - C arm Image intensifier (Rfx No. 3000002911)

Sl. No	Technical Specification		
	Equipment should have AERB Type Approval Certificate for radiation safety		
	The offered model should be European CE with 4 digit notified body number or USFDA or BIS for the quoted model .		
A	**X-RAY GENERATOR**		
1	Frequency : 30 KHz or better		
2	Power output : 2 KW or more		
3	KV range : 40-110 KV or better		
4	mA in radiography : 20mA or more		
5	**3 mA or more in normal fluoroscopy and 8 mA or more in High Level Fluro**		
6	Should have facility for continuous fluoroscopy and Pulse fluoroscopy (Pulse rate upto 8 pulse per second)		
7	Should have Digital Spot for high quality single image, 10 mA or more		
8	Housing heat capacity of minimum 400 KHU or fluroscopy time 30 min minimum		
B	**X-Ray tube Head**		
1	Must have anode heat capacity of min 40,000 HU & cooling rate of min 25,000 HU/Min		
2	Should have dual/Single focal spots		
3	Collimation : motorized iris and motorized rotating blades		
4	Tube assembly filtration of 3.0 mm Al or higher		
C	**C-Arm mechanism and control panel**		
1	Locks for stabilization at desired position		
2	It should have the following range of movements:		
3	Motorized vertical movements more than 400mm		
4	Horizontal travel : 200mm or more		
5	Orbital movement : (-) 30 deg. To (+) 90 Deg. (120 Deg. Or more)		
6	Swing / panning movement : +/- 10 degrees or more		
7	Source image distance : 950 mm or more		
8	Depth of c-arm : 650 mm or more		
D	**Control panel (Digital work station)**		
1	It should have the following facilities :		

Sl. No	Technical Specification		
2	System should have capabilty of Pulse Fluoroscopy option to reduce to radiation exposure with 1-10 pulse per second,which should be easily user selectable		
3	Fluoroscopy and Radiography exposure on switching		
4	Image rotation from control panel		
5	Image intensification, mode selection (normal and zoom)		
6	Automatic brightness stabilizer		
7	Auto dose rate control		
8	Collimation for radiography .		
E	**Integrated image processing, recording and memory system :**		
a)	**Image intensifier tube**		
1	Input diameter 9" with dual field (9/6)		
2	Minimum central resolution (at monitor) : 1.4 lp/mm or better at 9" FOV		
b)	**CCD camera**		
1	CCD camera with 1kx1k resolution for high resolution image acquisition		
c)	**Integrated image processing, memory and recording system should have**		
1	Medical Grade Monitors (Two Nos.)		
2	Min 18 inch or more , black and white, flicker free, high resolution (1280x1024 pixels or better), medical grade flat screen TFT, manual control of brightness and contrast, mounted on mobile trolley with locking device		
f)	Digital image processor		
1	Provision to record multiple images on CD,DVD& USB with embedded DICOM viewer.		
2	Image processing at 1K * 1K Matrix		
3	Contrast enhancement, edge enhancement, zoom facility		
4	Recursive filter		
5	Last image hold		
6	Image rotation, vertical and horizontal reversal		
7	Medical imaging software's with ability to store 5000DICOM Compatable images in internal storage or equivalent video		
g)	Additional features		
1	The equipment should work on a Power supply of 220-240 Volts, 50-60 Hz, 15 amp.		
3	Lead Aprons with all round protection (0.5mm lead equivalent approved by BARC) – 03		
4	Lead Aprons with front protection (0.5mm lead equivalent approved by BARC)- 3		
5	Thyroid shield (0.5mm lead equivalent approved by BARC) - 6		
6	Lead Eye glass 2 nos		
SN	**BOQ**	**Qty**	**UOM**
1	C arm as specified	1	Nos
2	Lead Aprons with all round protection	3	Nos
3	Lead Aprons with front protection	3	Nos
4	Thyroid shield	6	Nos
5	Lead eye glasses	2	Nos

Schedule No. 16-B - C arm Image intensifier with DSA (Rfx No. 3000003137)

Sl. No	Technical Specification		
	Equipment should have AERB Type Approval Certificate for radiation safety		
	The offered model should be European CE with 4 digit notified body number or USFDA or BIS for the quoted model .		
A	**X-RAY GENERATOR**		
1	Frequency : 40 KHz or better		
2	Power output : 3.5 KW or more		
3	KV range : 40-110 KV or better		
4	mA in radiography : 20mA or more		
5	**3 mA or more in normal fluoroscopy and 8 mA or more in High Level Fluro**		
6	Should have facility for continuous fluoroscopy and Pulse fluoroscopy (Pulse rate upto 8 pulse per second)		
7	Should have Digital Spot for high quality single image, 10 mA or more		
8	Housing heat capacity of minimum 400 KHU or fluroscopy time 30 min minimum		
B	**X-Ray tube Head**		
1	Must have anode heat capacity of min 40,000 HU & cooling rate of min 25,000 HU/Min		
2	Should have dual/Single focal spots		
3	Collimation : motorized iris and motorized rotating blades		
4	Tube assembly filtration of 3.0 mm Al or higher		
C	**C-Arm mechanism and control panel**		
1	Locks for stabilization at desired position		
2	It should have the following range of movements:		
3	Motorized vertical movements more than 400mm		
4	Horizontal travel : 200mm or more		
5	Orbital movement : (-) 30 deg. To (+) 90 Deg. (120 Deg. Or more)		
6	Swing / panning movement : +/- 10 degrees or more		
7	Source image distance : 950 mm or more		
8	Depth of c-arm : 650 mm or more		
D	**Control panel (Digital work station)**		
1	It should have the following facilities :		
2	System should have capabilty of Pulse Fluoroscopy option to reduce to radiation exposure with 1-10 pulse per second,which should be easily user selectable		
3	Fluoroscopy and Radiography exposure on switching		
4	Image rotation from control panel		
5	Image intensification, mode selection (normal and zoom)		
6	Automatic brightness stabilizer		
7	Auto dose rate control		
8	Collimation for radiography .		
E	**Integrated image processing, recording and memory system :**		
a)	**Image intensifier tube**		
1	Input diameter 9" with dual field (9/6)		
2	Minimum central resolution (at monitor) : 1.4 lp/mm or better at 9" FOV		

Sl. No	Technical Specification		
b)	**CCD camera**		
1	CCD camera with 1kx1k resolution for high resolution image acquisition		
c)	**Integrated image processing, memory and recording system should have**		
1	Medical Grade Monitors (Two Nos.)		
2	Min 18 inch or more , black and white, flicker free, high resolution (1280x1024 pixels or better), medical grade flat screen TFT, manual control of brightness and contrast, mounted on mobile trolley with locking device		
F	**Digital image processor**		
1	Provision to record multiple images on CD,DVD& USB with embedded DICOM viewer.		
2	Image processing at 1K * 1K Matrix		
3	Contrast enhancement, edge enhancement, zoom facility		
4	Recursive filter		
5	Last image hold		
6	Image rotation, vertical and horizontal reversal		
7	Medical imaging software's with ability to store 5000DICOM Compatable images in internal storage or equivalent video		
G	**Additional features**		
1	The equipment should work on a Power supply of 220-240 Volts, 50-60 Hz, 15 amp.		
3	Lead Aprons with all round protection (0.5mm lead equivalent approved by BARC) – 03		
4	Lead Aprons with front protection (0.5mm lead equivalent approved by BARC)- 3		
5	Thyroid shield (0.5mm lead equivalent approved by BARC) - 6		
6	Lead Eye glass 2 nos		
H	**DSA**		
1	Automatic dose level sélection.		
2	Automatic image parameter selection, but also provide user to over ride these settings manually.		
3	Complete DSA Package with Road Mapping facility, Pixel shift, landmark, remasking capabilities etc.		
4	Image storage of min. 10000 images in 1024x1024 matrix.		
5	Image annotation facility, measuring of angles and distances.		
6	Entering Demographic data of patients.		
7	Support of virtually all DICOM 3.0 functionalities : DICOM Send/Receive , Storage, Print, Work list,Query/Retrieve , MPPS (Modality Performed Procedure Step) for importing data from HIS/RIS system.		
8	Options for post processing, archiving and documentation:With CD, DVD in DICOM and with USB in DICOM and BMP format		
SN	**BOQ**	**Qty**	**UOM**
1	C arm as specified with DSA	1	Nos
2	Lead Aprons with all round protection	3	Nos
3	Lead Aprons with front protection	3	Nos
4	Thyroid shield	6	Nos
5	Lead eye glasses	2	Nos

Schedule No. 16-C - Digital Flat Panel Detector Mobile C - Arm System (Rfx No. 3000003138)

	Technical Specification
A	**GANTRY / C-ARM**
1	The system should have a minimum of 80cm free space within the C-Arm to provide a large imaging space.
2	The C-arm depth should be 70 cm or deeper to provide a large imaging space and C-arm clearance around the patient and the imaging table.
3	The C-arm should have a manual angulation of +/-200 degrees to allow the imaging chain to accomplish angled projections.
4	The C-arm field of view should be a square field of view for better ROI coverage.
5	The C-arm should have orbital movement of + 90 / - 45 degrees for better penetration in Crania/caudal movement.
6	The system should have at least 40cm of motorized vertical C-Arm travel capability to adjust the imaging chain height.
7	The C-arm should provide side to side (wig-wag) and the horizontal travel movements to allow panning during an imaging.
B	**GENERATOR & X-RAY TUBE**
1	The generator should be Micro Processor controlled converter type with output of 12 KW or more and minimum 50 kHZ frequency (or higher).
2	The system should operate in full capacity on 220 volts AC, 15 amps.
3	Fluoroscopic kVp range : 40-120kVp or more
4	Fluoroscopic mA range : 4 mA - 60 mA
5	Radiographic kVp range : 40-110kVp or more
6	Radiographic mA range : Minimum 100mA
7	The generator should be capable of providing pulse fluoroscopy with pulse rates upto 25 frames/sec.
8	The X-ray tube should be a rotating anode X-ray tube type.
9	The tube should have additional safety filtration for the stray or scattered radiation i.e. cu filters.
10	Focal spot size should be 0.3mm & 0.6mm dual focal spots.
11	Anode heat storage capacity should be 200 KH.U. or higher
C	**FLAT PANEL DETECTOR SYSTEM**
1	The system should have a Flat detector of CSI with Amorphous Silicon doping.
2	The Size of the detector should be of min 20 cm X 20 cm.
3	The pixel size should be 200 micron or less
4	The system should be equipped with two high-resolution 18” LCD/TFT medical grade monitors or more.
5	The system should provide a last image hold capability that the last image is displayed on the active monitor after the termination of an exposure.
6	The system should be equipped with touch control panel.
7	The system shall allow the user to change the image orientation on the display screen during a live exposure or using the last image hold. Those functions include image rotation, and top to bottom image reversals.
D	**DIGITAL SYSTEM & IMAGE MANAGEMENT**
1	The system should have multi patient data base for handling large quantities of image, including dose management report.

	Technical Specification
2	The system should automatically select proper imaging parameters, kVp and mA during an imaging, but also provide the user to over-ride these setting manually.
3	Real time and automatic brightness and contrast should be provided to optimize displayed image.
4	The system should provide a real – time post processing edge enhancement capabilities to get better image quality according to the density of the tissue. An electronic zoom function, an automatic save function to hard disk, Mosaic Display.
5	The system should be capable of saving more than 5000 images to the internal hard disk and retrieve stored images later.
6	It should have facility to record on line fluoroscopy.
7	It should have facility for image and fluoro sequences retrieval on a CD/DVD/Pen drive.
8	System should have facility for DICOM connectivity and DICOM Ready. All DICOM functions (DICOM Send/Storage Commitment, DICOM Print, DICOM Query/Retrieve, DICOM Worklist/MPPS) should be offered.
9	Software to enhancement the contrast of image with respect to density of organ should be offered, allowing the contrast of structures to be emphasized without loss of information in bright and dark image areas
	Following Dose Reduction Package should be offered
10	Integrated dose measuring chamber with automatic transfer of the accumulated dose into a radiation report.
11	Radiation-free positioning of primary collimators through graphical display in the LIH image on the image monitor
E	**DSA (Price to be quoted Seperately)**
1	Automatic dose level sélection.
2	Automatic image parameter selection, but also provide user to over ride these settings manually.
3	Complete DSA Package with Road Mapping facility, Pixel shift, landmark, remasking capabilities etc.
4	Image storage of min. 10000 images in 1024x1024 matrix.
5	Image annotation facility, measuring of angles and distances.
6	Entering Demographic data of patients.
7	Support of virtually all DICOM 3.0 functionalities : DICOM Send/Receive , Storage, Print, Work list,Query/Retrieve , MPPS (Modality Performed Procedure Step) for importing data from HIS/RIS system.
8	Options for post processing, archiving and documentation:With CD, DVD in DICOM and with USB in DICOM and BMP format
F	**Essential Certification:**
1	The offered model should be European CE with 4 digit notified body number or USFDA or BIS for the quoted model.
2	Equipment should have AERB Type Approval Certificate for radiation safety
G	**ESSENTIAL ACCESSORIES**
1	Lead Aprons with all round protection: 3 Nos
2	Lead Aprons with front protection: 3 Nos
3	Thyroid shield : 6 Nos
4	Lead eye glasses: 2 Nos

Schedule No. 18 - Intra-Operative Facial Nerve Monitoring System (RFx.No.3000002913)

Para	TENDER SPECIFICATION	READ AS
5.b	forceps probe (reusable, autoclavable)- 1 No.	Forceps probe - **Reusable 1 no or disposable 10 nos**
5.e	Reusable twisted sub dermal Needles – 10 Nos.	Twisted sub dermal Needles – **Reusable 1 no or disposable 10 Nos.**
BOQ.2	Forceps probe (reusable, autoclavable) 1 No	Forceps probe - **Reusable 1 no or disposable 10 nos**
BOQ.5	Reusable twisted sub dermal Needles – 10 Nos.	Twisted sub dermal Needles – **Reusable 1 no or disposable 10 Nos.**

All other contents of the tender enquiry including terms & conditions remain unaltered.

Note:

i. **Prospective Bidders are also advised to check the website regularly prior to the closing date and time of online submission of bids**