CORRIGENDUM TO TENDER REFERENCE NO. BHU/RD&I/2020-21/001 DATED 30.5.2020

TENDER REFERENCE NO. : BHU/RD&I/2020-21/001

TENDER ID: 2020_BHU_562042_1

TENDER TITLE: Supply of 3T MRI equipment on turnkey basis

Please refer to tender reference no BHU/RD&I/2020-21/001 dated 30.5.2020 issued for purchase of 3 Tesla MRI equipment in Department of Radiodiagnosis and Imaging, Institute of Medical Sciences, Banaras Hindu University, the following changes in the tender notice are hereby notified through this corrigendum.

A. Change of dates:

Bid Document Download End Date	**10.09.2020 (05:00 PM)**
Bid Submission End Date	**10.9.2020 (05:00 PM)**
Bid Opening Date	**11.09.2020 (03:00 PM)**

B. Changes in turnkey works:

1. Point (g) in the initial part of technical specification to be read as:

   " (g) Comprehensive Warranty for 5 (Five) Year from the date of satisfactory handing over the fully functional unit. The warranty will be on all the items, spare parts, Helium, Cold head, Coils, Computer system Hardware and Software and including all accessories and local supply items (like UPS including batteries, metal detector, AC, Generator all turnkey work if any) to the institute. A CMC for a further period of 5 (Five) Years for all

the above-mentioned components to be frozen at the time of finalization of financial bid. Both warranty and CMC to included magnet replacement, quenches, de-icing and thermal re-cycle of magnet as and when needed.

2. **Point 12 to be read as**

12. SCOPE OF WORK UNDER TURNKEY WORKS:

The university insists that all vendors should make a visit to the site and make actual measurements (and seek all other details/query related to turnkey work) to their satisfaction before submitting the bid. (No representations on any points after bid submission shall be entertained. The vendors should satisfy themselves that all points are clear enough to be so that the price bid remains equipoised between competitors). Seeking for the permissions for approval of the structural drawings/ sanctions/permission from local authorities/ regulating bodies will be the responsibility of Institute/consignee. The standard guidelines for all such aspects (i.e drawings, planning, execution etc.) should be followed by the vendor and adequate time given to the university for each such permission.

a) Site development: The site is divided in three parts –

AREA A: A total of approximately 1800 Sq. Ft., presently within the old MRI area of the department is to be **completely demolished** and reconstructed as a **ground and first floor (G+1) structure**. The currently running 1.5 Tesla MRI area however shall be not included and should be totally spared of the turn key work, though the turn key should be planned such that there is a seamless connectivity of both units from the waiting area and reception. Composition of R.C.C throughout the building is to be M25 to be examined & confirmed by appropriate authority. Minor alteration in turn key to suit the need of department and after approval by appropriate authority may be included later on if needed, without changing the cost of price bid.

(i) The ground floor of this area (**approximately 1800 Sq. Ft area**) should include the:

1. Main gantry room (with RF cage) with MRI compatible facility for oxygen, suction and anesthetic gas ports, and pipelines to the main supply. These should be capable enough for anesthetic induction and maintenance of patient during the case under monitored anesthesia care (MAC).

2. Console room with a two-screen LED view box, one rack of six (6) employee lockers, one almirah, table with drawers and rotating chair. Two executive chairs: one each for the main console and for the off-line workstation.
3. Patient preparation room with facility for oxygen, suction and anesthetic gas ports, and pipelines to the main supply. This is aimed at providing care to patient after scanning under MAC. A changing corner with slidable curtain to be provided in this room. Also, a small corner hand -wash basin to be provided in this room.
4. UPS room
5. Cabinet/Technical room
6. Patient waiting area 12 feet x 14 feet with a stretcher parking bay 8 feet x 10 feet.
7. Reception (should have a separate entrance from the patient waiting area) with a window towards waiting area. This should have a wooden counter, wall size wooden lockable almirah and one revolving chair.
8. One staff toilet located adjacent to the reception.

Minimum of eighteen (18) ton ductable air conditioning unit split appropriately in an active and a stand-by unit should be provided to cover this whole area (AREA A; 1-8 above). The work in this area would include free of cost guideline based dis-installation and proper disposal of an old 0.2 tesla equipment occupying the provided area as the first step (the responsibility to find out any guidelines if available for this purpose and to certify that the dis-installment/disposal has been done according to same would be on the vendor. **The certificate to the effect should be provided to the university after dis-installation /disposal.** In case any discrepancy with respect to executing the guidelines for dis-installment and disposal arise later-on, the vendor should be willing to take the responsibility. In case the equipment may be sold as a junk, the university reserves the right to secure the same in the university junkyard. The vendors are free to inspect and seek for required details of this equipment.

(ii) The first floor of this area will be air-conditioned by separate **split A.C** in each room as specified. Out of the 1800 sq feet area, approx. 250 sq. feet may be utilized to station Chiller and other outdoor units under chiller shed. Rest of the area (approx. 1550 sq feet) should be built-up area containing the following

1. A state-of-art reporting room with one toilet and two 2-ton A.C, having electronic and data connectivity with the MRI. The clients (cited in "point 8. Workstation" above)

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shall be placed in this area. The development of this area should include making of a new floor with vitrified tiles, false roofing and ergonomic lighting, sound-proofing of the room, wood panel on wall up to a height of 6 feet, 4 panels-in-1 LED view boxes as specified below (20), 72 inch LCD television (Samsung/Philips/Sony or equivalent) with connected personal computer (HP/Dell/Apple or equivalent). A central conference table, thirty (30) revolving ergonomic chairs, fifteen (15) plane top reporting tables, employee lockers – six (6) racks each rack having six (6) lockers to be provided in this room.

2. Two multipurpose rooms (each with a 1.5-ton A.C)
3. Two consultant rooms (each with 1.5-ton A.C) with a common toilet in between.
4. Washing room with no A.C

View box: Each panel should be suitable for viewing minimum sheet size of 355mm X 432mm and have a luminance of 5500 Cd/square meter. The front viewing screen should be made of high quality Polymethyl Methacrylate (PMMA) and the power consumption should be not more than 15 Watts/panel. Overall thickness of the illuminator should not be more than 30 millimeters. Comprehensive onsite warranty for 5 year should be offered with a replacement clause if repair is not done within 48 hours. The view boxes maybe provided through a third party with 24x7x365 presence in Varanasi.

AREA B: This will be non-air-conditioned area with no major underground construction that may disrupt the existing sewer pipeline of the hospital. The area B is presently green area between MRI complex and Ultrasound reception ("Swagat Kaksh").

(i) Approximately 700 Sq. ft of this area is to be reclaimed and is to be developed as a shaded waiting area. This shall be covered by energy efficient (heat proof) powder coated aluminum panels on metal scaffoldings (only one layer of brick and cement masonry to be done on floor, otherwise only supporting masonry needed). This covering should be sturdy and be able to take physical impact for patient/attender protection and, water resistant. Six (6) energy efficient ceiling fans and six (6) energy efficient tube lights should be provided in this area attached to metal scaffoldings. The generator room (with facility of open air-exhaust and direct access from outside) shall be locate at the end of this area.

(ii) Rest of the adjacent green area will just have to be cleaned and converted to an aesthetic green zone. Patient toilet located towards an end of this green area is to be made (outside the shaded area), this should have three (3) urinals, one (1) male and one (1) female toilet.

AREA C (approximately 800 sq. feet) are the areas within the main department (located at the ground floor of SSH building), part of which houses an old head C.T scanner (the vendors are free to inspect and seek for required details of this equipment). Free of cost guideline based dis-installation and proper disposal of this equipment has to be done as the first step (the responsibility to find out any guidelines if available for this purpose and to certify that the dis-installment/disposal has been done according to such guidelines would be on the vendor). **The certificate to the effect should be provided to the university after dis-installation /disposal.** In case any discrepancy with respect to executing the guidelines for dis-installment and disposal arise later-on, the vendor should be willing to take the responsibility. In case the equipment may be sold as a junk, the university reserves the right to secure the same in the university junkyard. The development of this area would include making of a new floor with vitrified tiles, re-plastering of all walls, false roofing and ergonomic lighting. In case any ancillary civil work including repair of any adjacent pipe seepage etc. is concerned (limited only to the vicinity of the department) is concerned, the vendor shall be willing to take up the same. Air-conditioning of this area should be done by two (2) split A.C of 1.5 Ton each.

b) Civil Works: The space for necessary civil works like Platform, Pedestals, etc., if any, required shall be provided for MRI/ other accessories including generator unloading/ final positioning. However, the same shall be created by the vendor at their own cost. Demolition of walls/Site modification/renovation within already constructed area as per site requirement and approved Layout Plan to be done by the turnkey vendor. Creation of an apron for the surrounding buildings, PCC and filling area of surrounding courtyard with creation of rain-water surface (open) drains should be included.

c) Flooring: providing and laying 2 mm thick Anti-static vinyl flooring in MRI Room and 600 x 600 mm Vitrified tiles (Make: Kajaria/ Nitco/ Somani/Equivalent) in all areas under scope apart MRI Room. All the sanitary fittings should be of Jaguar/Roca/Kohler or equivalent.

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d) False Ceiling: Mineral fibre panel false ceiling with AL suspension should be provide in all rooms apart MRI Room (Make: Armstrong/St.Gobin/Equivalent). Ceiling height to suit the equipment mount and clearances. Gypsum ceiling with Cove and light panel in the Centre should be provided in MRI Room.

e) Walls: Pre-laminated particle board panelling on the walls of MRI Exam room. Vitrified tiles 600mm x 600mm (Make: Kajaria/Nitco/Somani/Equivalent) up to 5 Feet from ground level and POP in all other rooms. Paint - (Make: Asian/Burger/Nerolac/Equivalent) upto false ceiling above tiles in all rooms under scope apart MRI Room.

f) Doors: The non-ferro-magnetic door of MRI gantry room should be a part of RF Cage and should have a facility for locking during scanning. Rest all doors of AREA-A, B and C MRI should be powder coated aluminium and glass doors with required fittings/locks etc. The exterior doors should be secured by collapsible iron channel gate.

g) Electrical Works: Electrical power inlet cable shall be provided by the institution upto the panel installed by vendor in MRI Panel room, vendor to share machine load requirement along with general lighting, Air conditioning and any other requirement for the machine area. All general lighting in the area will be carried out by LED light by using copper wiring and PVC conduits. The lights will be of Philips, syska or equivalent. The switches will be of Crabtree, Havells or equivalent. Trench/raceway/cable tray if required for the area will be provided by the vendor. The switches will be of Crabtree, Havells or equivalent. 4 Nos of Copper/chemical earthings for the MRI unit should be provided by the vendor.

h) Cabling for network (LAN) connectivity for console system, workstation/clients and computers etc. to be provided by the vendor.

i) Eight (8) NoS. of non-magnetic lights will be provided in MRI ROOM. In addition, the vendor is requested to provide ONE non-magnetic focus light with a foldable extension arm which can be utilized to examine the patient/ or to give IV injections, and be parked along one of the patient side walls.

j) Fire Detection System - Fire Detection system (consisting fire panel, smoke &heat detectors, hooters, response indicators etc) along with Fire extinguisher equipment (ABC type Extinguishers) to be provided as per site requirement. Make- Agni or

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equivalent. 4 Nos. of Fire extinguishers ABC Type 4 Kg each and 1 No MRI Compatible fire extinguisher should be supplied.

k) Furniture **(in addition to that mentioned above with rooms in MRI suite)** - Furniture of good quality of reputed make should be provided (Godrej/Feather lite or equivalent make). Office table with chest of three side drawers - two (2) in number; plane top table without drawers - four (4) in number; computer/office chairs - four (4) in number; patient waiting chairs (a rack of 3) - 15 racks in number, Phantom Rack: 1 no. (customized).

l) Air-conditioning: Good quality brand-new air-conditioning units (Daikin/ Hitachi/ Blue Star/ Voltas/ Career or equivalent) should be provided. Proper ducting and other essential works including placement of out-door units at suitable shaded sites (away from direct sunlight) should be done by the vendor.

m) Generator (DG set) – Generator with minimum capacity 350 KvA should be provided and should be good enough to support all high-power sequences including gradient based sequences and DTI. Further all cabling and installation work related to generator should be completed by the vendor. A silencing canopy/enclosure should be provided along with the generator. Please also provide an auto-start/stop mechanism to switch on the generator with requisite battery and switches. The generator exhaust should be eliminated through a chimney at any suitable site (as decided mutually with the hospital engineer) and should be away from the covered waiting area as specified above. Please ensure that there is no possibility of any human exposure to the emissions of this pipe as per the current design of the building. This generator shall cover supply to whole of AREA-A (first and ground floors) and AREA-B. The AREA-C shall rely on the hospital power back-up in case of break downs.

n) UPS - Uninterrupted power supply (UPS) with a minimum of 250 kVA or more to support complete working of the machine for 30 minutes on back up with full load of the running MR system and its accessories including the server and clients. The battery bank should be sufficient to support the above configuration. All batteries should be of same make and "certified" brand new.

o) Camera - Latest state-of-art dry laser camera (Agfa/Fuji/Kodak), with three online tray system and more than **500 dpi**, capable of storing/printing images of 1024 x 1024 (or

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higher) matrix size in various matrix formats (including 16 format) without loss of digital resolution to be attached to the off-line clients and the online work station. The equipment and the camera should be open access for connectivity to any other camera/printing system and equipment respectively.

p) Quench pipe: The quench pipe exhaust should be eliminated through a chimney at a suitable site (as decided mutually with the hospital engineer) and should be away from the covered waiting area as specified above. Please ensure that there is no possibility of any human exposure to the emissions of this pipe as per the current design of the building.

q) MR Compatible Dual Pressure injector (MedRad/ equivalent or better models). 500 compatible syringes and tubings to be included as a standard.

r) MRI Compatible multiparametric non-invasive patient physiology/vitals monitoring system to demonstrate at least ECG, Pulse rate , blood pressure, respiratory rate, Oxygen Saturation (SpO_2).

s) Walk-through metal detector system at the entrance of MRI room.

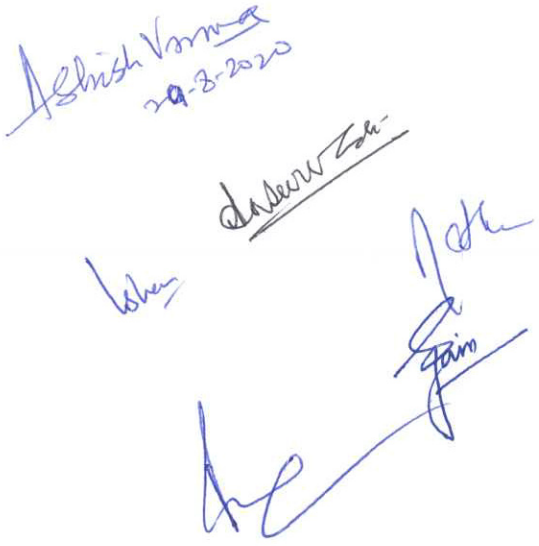
t) Seamless Intercom telephone facility amongst all rooms mentioned in turn-key, and with 1.5 T MRI should be provided. Also laying of LAN data cables in all rooms connected to university LAN network shall be included in the scope of work.

u) The whole complex cited in this turn-key except AREA-C and the consultant rooms shall be connected to the closed-circuit television (CCTV) system (CP Plus or equivalent) to be provided by the vendor.

v) Biometric entry system (eSSL Security or equivalent) should be provided at the entry of first floor of AREA-A.

w) The post- warranty (after 5 years) CMC should be comprehensive and should include helium and cold head (repair and / or replacement) + labour + spares for the complete system which includes all the accessories supplied such as UPS, Generator, AC etc. (including all consumables like batteries for UPS, and maintenance) for another 5 years. This CAMC should be quoted in Indian rupees. Note any Liquid Helium filling due to quenching or due to any other causes (quenching or damage to magnet due to physical impact caused by ferromagnetic objects like MRI non-compatible stretcher/patient bed/oxygen cylinder/ wheel chair etc. directly or indirectly as a consequence of above,

may be excluded from the vendors' responsibility. In case of any dispute however the vendor undertakes to abide by the decision of the policy planning committee of radiology department BHU), during the CMC period shall be borne by the firm Thermal recycling if needed shall be the responsibility of the vendor at no added cost. If a particular coil is not working for more than 5 days or the equipment as such malfunctions beyond 5 % of 365/366 days, and due to which patient work suffers, the firm will be asked to pay penalty for each loss-day in form of extension of warranty/CMC in ratio of 1:5 (i.e five days extended for each day lost). The total loss days shall be calculated on a cumulative basis at the end of warranty/CMC (as is applicable). Similar clause as stated above shall be applicable to all third-party items as well covered under CMC. The CMC is optional and should be quoted in a separate document (not in BOQ) with year wise break-up.



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Tender Ref No :	BHU/RDI/2020-21/001
Tender Title :	Supply of 3 T MRI equipment on turn-key basis
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Corrigendum:4

Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
Bid Date Extended	Modification in Scope of work ,Bid Submission End Date and Bid Opening Date are Extended	30-Aug-2020 12:17 PM	corri_rdi_ims.pdf	5261.73

Critical Dates

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Clarification Start Date	01-Jun-2020 05:00 PM	**Clarification End Date**	12-Jun-2020 05:00 PM
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Corrigendum:3

Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
Change Date	Date Extended	15-Aug-2020 12:11 PM	Corri_rdi05.pdf	1718.67

Critical Dates

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Corrigendum:2

Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
Date Extention	Due to Modification in technical cover the abvoe tender date are extended	30-Jul-2020 11:23 AM	corri.pdf	715.36

Critical Dates

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Corrigendum:1

Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
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Critical Dates

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Details Before Corrigendum

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Corr.No.	Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
1	Modification in turnkey Work	Modification in turnkey Work	30-Aug-2020 12:17 PM	corri_rdi_ims.pdf	5261.73
2	Modification in scope of Work	Modification in scope of Work	15-Aug-2020 12:11 PM	Corri_rdi05.pdf	1718.67
3	Modification in Technical Bid	Modification in Technical Specification	30-Jul-2020 11:28 AM	corri1.pdf	7615.35
4	Modification in Technical Speicification	Modification in Technical Speicification	30-Jun-2020 10:54 AM	corri3.pdf	1826.29
5	Amendment in Technical Bid	Modification in Technical specification	22-Jun-2020 04:06 PM	corri.pdf	3726.43