

**Amendment No. 05****Date: 16/01/2020****Sub: Amendment No.05 to the Tender Enquiry Document****Ref: (i) Tender No: HITES/PCD/AIIMS-BBSR/05/19-20 Dated: 18.10.2019****Section VII**  
**Technical Specifications**

<b>Tender ID 2019_HLL_34016_1 Medical Cyclotron</b>		
<b>Tender Page &amp; Para</b>	<b>TENDER SPECIFICATION</b>	<b>READ AS</b>
Pg 48 Para V.	Cyclotron should be capable of delivering a beam of 150 $\mu\text{A}$ . <b>Beam current to be adjustable from 1 <math>\mu\text{A}</math> - 150 <math>\mu\text{A}</math> and stable at any current settings.</b>	Cyclotron should be capable of delivering a beam of <b>130 <math>\mu\text{A}</math> or more.</b>
Pg 51 Para 7. VIII.	Sufficient radiation shielding shall be incorporated in the vault design to ensure that the integrated equivalent dose (total gamma and neutron dose) limits in areas adjacent to the Cyclotron room shall be met (dose constraints shall be met at $\leq 1$ m from the walls and above floor level in the indicated areas. Integrated equivalent dose during cyclotron operation for one hour at maximum sustainable beam current for dual F18- target proton irradiation (or dual F18- target irradiation at $2 * 75\mu\text{A}$ ) shall be: $\leq 0.5$ $\mu\text{Sv}$ in any of the rooms above the cyclotron, adjacent to the cyclotron, outside the cyclotron vault door entrance	Sufficient radiation shielding shall be incorporated in the vault design to ensure that the integrated equivalent dose (total gamma and neutron dose) limits in areas adjacent to the Cyclotron room shall be met (dose constraints shall be met at $\leq 1$ m from the walls and above floor level in the indicated areas. Integrated equivalent dose during cyclotron operation for one hour at maximum sustainable beam current for dual F18- target proton irradiation (or dual F18- target irradiation at $2 * 65\mu\text{A}$ ) shall be <b>as per AERB limits</b> in any of the rooms above the cyclotron, adjacent to the cyclotron, outside the cyclotron vault door entrance
Pg 52 Para 8 III.	One suitably housed synthesis module for $^{13}\text{NH}_3$ with adequate shielding for producing ammonia through reduction & direct route and collection of ammonia so that it can be quickly delivered to PET scanner room.	<b>Latest target for fast and simple production of <math>^{13}\text{NH}_3</math> using direct In-target <math>^{13}\text{NH}_3</math> production, so that no separate process module is required.</b>
Pg 54 Para 11 VIII.	Maintenance Contract: Comprehensive maintenance contract (CMC) with all spare and labor should be quoted for a period of Five Years after the expiry of warranty period. The uptime during warranty and CMC should be more than 95 %. Trained service engineer should be stationed at Bhubaneswar on 24 hrs x 7 day's basis. As part of the contract, a remote support of 24 hrs x 7	Maintenance Contract: Comprehensive maintenance contract (CMC) with all spare and labor should be quoted for a period of Five Years after the expiry of warranty period. The uptime during warranty and CMC should be more than 95 %. Trained service engineer should be stationed at Bhubaneswar on 24 hrs x 7 day's basis on working days. As part

	days must be offered. This 24 hrs x7 days support must give direct access to cyclotron engineer-specialist. <b>CMC will also include electrical panels and HVAC.</b>	of the contract, a remote support of 24 hrs x 7 days must be offered. This 24 hrs x7 days support must give direct access to cyclotron engineer-specialist.
Pg 55 Para 11 X.	Operation of Cyclotron: During the warranty period, the vendor will make provisions to operate the cyclotron, synthesis of isotopes, to do quality assurance & all necessary maintenance so as to produce necessary isotopes for the PET scanner. For this purpose, he will provide ONE Nuclear Medicine Physicist and One Radio chemist.	Operation of Cyclotron: During the warranty period, the vendor will <b>provide one Nuclear Medicine Technologist and One manpower for radio labeling as contract manpower to support cyclotron operation and production of PET tracers in the end-user's site and also do necessary maintenance so as to produce necessary isotopes for the PET scanner</b>
Pg 55 Para 11. XIV.	FDG Marketing Authorization Support (i) The tenderer will provide the deliverables to support the preparation of the final submittal file to local authorities for obtaining the Market Authorization for FDG manufacture.	<b>The tenderers will provide necessary technical support and information for obtaining requisite license of cyclotron operation from the regulatory body of India (AERB).</b>
<b>Amendment No. 02, page-2 (earlier Pg. 47, para I)</b>	A negative ion Cyclotron with > 16 MeV energy in order to allow production of conventional (F18, <b>11C</b> , 13N) and nonconventional radioisotopes (I-124, I-123, 64Cu, 89Zr, 86Y) with liquid, gas and solid targets. Note: The productions of I-124, Cu-64, Zr- 89, Y-86 are planned along with F-18, C-11 and N-13 are for present scope	A negative ion Cyclotron with > 16 MeV energy in order to allow production of conventional (F18, 13N) and nonconventional radioisotopes (I-124, I-123, 64Cu, 89Zr, 86Y) with liquid, gas and solid targets. <b>Note: There must be provision for production of I-124, 64Cu, 89Zr and 86Y in future, all required space for the same must be constructed now, the equipment should have provision for software and hardware upgradation for solid target in future)</b>
<b>Amendment No. 02, page-3 (earlier page-49, para 4, VIII.)</b>	Automated extraction of radionuclide should be in built. All the equipment necessary for Iodine- 124 and other radionuclides production must be detailed. Hardware and software necessary for successful production in future must be provided.	<b>Deleted</b>
Pg 56 Para 12. II.	Once agreed upon, the successful Tenderer shall work, in full consultation with the AIIMS, Bhubaneswar, in preparing detailed site plan for the installation of the cyclotron and associated equipment and PET-CT.	Once agreed upon, the successful Tenderer shall work, in full consultation with the <b>dept of Nuclear Medicine</b> , AIIMS, Bhubaneswar, in preparing detailed site plan for the installation of the cyclotron and associated equipment and PET-CT.

Pg 56 Para A. Architectural Design	The proposal of tenderers must include the price of building engineering files as described here below: A. Architectural Design a) Overall layout b) Highlights of building specific aspects such as (but not limited to): Cyclotron connections transfer line trenches clean room & lab finishing aspects c) 1/100 scaled plans and sections of the concerned part of the building d) Architectural Basic Design shall be offered and scope of supplies will include above files	The proposal of tenderers must include the price of building engineering files as described here below: A. Architectural Design a) Overall layout b) Highlights of building specific aspects such as (but not limited to): Cyclotron connections transfer line trenches clean room & lab finishing aspects - <b>Clean room and lab finishes as per standard GMP certification requirement, Greenfield project.</b> c) 1/100 scaled plans and sections of the concerned part of the building d) Architectural Basic Design shall be offered and scope of supplies will include above files
Pg 56 Para C. HVAC design	C. HVAC design a) Air conditioning, <b>heating</b> and cooling system – <b>aeraulic and hydraulic diagrams</b> b) Cooling system including chilled water for technical equipment cyclotron cooling c) Definition and dimensioning of ventilation equipment d) Unifilar drawings of ducts, piping and ventilation grids e) HVAC Design shall be offered and scope of supplies will include above files f) Temperature ranges: 22± 2° C in all areas except equipment room which shall be as per requirement of the equipment (PET-CT included)	C. HVAC design a) Air conditioning and cooling system b) Cooling system including chilled water for technical equipment cyclotron cooling c) Definition and dimensioning of ventilation equipment d) Unifilar drawings of ducts, piping and ventilation grids e) HVAC Design shall be offered and scope of supplies will include above files f) <b>Comfortable temperature ranges</b> in all areas except equipment room which shall be as per requirement of the equipment (PET-CT included)
Pg 57 Para F. GMP Turnkey references list	Expertise in building GMP compliant PET laboratories must be given <b>by providing a references list.</b>	Expertise in building GMP compliant PET laboratories must be given. <b>Both cyclotron and hot lab facility has to be GMP compliant</b>
Pg 58 Scope of Turnkey Conditions for PET Centre Building including medical cyclotron housing: Para V.	Total area to be constructed for entire building (Cyclotron bunker, radio pharmacy lab, PET-CT and isolation ward) is 13500 square feet ( <b>ground floor 8000 and first floor 5500 sqft</b> ). Note: Total 13500 square feet will be closed area	Total area to be constructed for entire building (Cyclotron bunker, radiopharmacy lab, PET-CT and isolation ward) is <b>approx 14000</b> square feet. Note: Total <b>14000</b> square feet will be closed area

<p>Pg 58 Scope of Turnkey Conditions for PET Centre Building including medical cyclotron housing: Para X.</p>	<p>The cyclotron bidders have to provide a detailed plan for construction of building for housing cyclotron, laboratory for radio pharmaceutical production and quality control and commissioning of PET-CT. This plan should incorporate the following features.</p> <p>a) The Foundation of the building should be constructed such that it could go up to ground floor + 5 floors in future.</p> <p>b) Currently two floors (ground floor and + 1) need to be constructed.</p> <p>c) The cyclotron room outer walls should be of RCC. The cyclotron should be housed in a bunker in the ground floor of the building as per AERB norms.</p> <p>d) Radio pharmacy laboratory <b>adjoining the cyclotron</b> (Must be GMP Complaint) and PET-CT area <b>should be in the ground floor.</b></p>	<p>The cyclotron bidders have to provide a detailed plan for construction of building for housing cyclotron, laboratory for radio pharmaceutical production and quality control and commissioning of PET-CT. This plan should incorporate the following features.</p> <p>a) The Foundation of the building should be constructed such that it could go up to ground floor + 5 floors in future.</p> <p>b) Currently two floors (<b>either</b> ground floor and + 1 <b>or basement and ground floor depending upon the installation of cyclotron</b>) need to be constructed.</p> <p>c) The cyclotron room outer walls should be of RCC. The cyclotron should be housed as per AERB norms.</p> <p>d) Radio pharmacy laboratory (Must be GMP Complaint) and PET-CT area.</p> <p><b>The construction should be according to standard GMP specification. The vendor will plan and design the Medical cyclotron and PET-CT facility as per stipulated GMP guidelines. The vendor will provide necessary technical support to the institute during GMP validation of its medical cyclotron and PET-CT facility within the warranty period.</b></p>
<p>Pg 58 Scope of Turnkey Conditions for PET Centre Building including medical cyclotron housing: Para X. e)</p>	<p>PET-CT area should include PET-CT equipment rooms (2 in number, one for future expansion), console room, UPS room, Patient preparation area, Nursing area with Nurses changing room, dose admin room, post admin waiting area (4 separations), radioactive store, general store, medical record room, office, reception, radioactive waste store, recovery room, active toilets, staff toilets, pantry, changing room, technician room, consultant room (three in numbers), HOD room (one in number), patient examination rooms (2 in number) and reporting rooms (2 in numbers). Separate toilets for Ladies and Gents should be provided apart from separate public toilet facilities for men &amp;</p>	<p>PET-CT area should include PET-CT equipment rooms (2 in number, one for future expansion), console room, UPS room, Patient preparation area, Nursing area with Nurses changing room, dose admin room, post admin waiting area (4 separations), radioactive store, general store, medical record room, office, reception, radioactive waste store, recovery room, active toilets, staff toilets, pantry, changing room, technician room, consultant room (three in numbers), HOD room (one in number), patient examination rooms (2 in number) and reporting rooms (2 in numbers). Separate toilets for Ladies and Gents should be provided apart from separate public toilet facilities for men &amp; women and store for sanitary</p>

	women and store for sanitary items.	items. <b>Note: Total closed area 14000 sq ft. The final internal arrangement of the rooms will be discussed after award of tender as it depends on AERB approval of layout.</b>
Pg 58 Scope of Turnkey Conditions for PET Centre Building including medical cyclotron housing: Para X. j)	Separate room for <b>D-G set</b> , electrical panel etc	Separate room for electrical panel etc
Pg 59 Para XIII.	Timeline to complete construction of building should be maximum 12 months after getting AERB approval. Maximum time of 6 months can be considered for cyclotron installation. However, the entire project (construction and installation) should run in overlapping mode and maximum time for total project after AERB approval of site and layout must be 12 months	Timeline to complete construction of building should be maximum <b>18</b> months after getting AERB approval. Maximum time of 6 months can be considered for cyclotron installation. However, the entire project (construction and installation) should run in overlapping mode and maximum time for total project after AERB approval of site and layout must be <b>18</b> months
Pg 61 Para 25.	There should be Access control for doors in the cyclotron facility and cyclotron vault Added Para: Approached Road to Cyclotron should be considered. Added Para: The foundation of the building will be for G+5. Added Para: All clearance from Statutory Body (ies) i.e. BDA, Municipality, Fire Office etc. <b>have to be obtained by the Vendor with cooperation from Engineering department of the AIIMS, Bhubaneswar.</b> Added Para: Structural drawings prepared by vendor must be approved by any structural Engineer <b>from IIT/NIT etc duly stamped/signed</b> and a copy submitted to AIIMS, Bhubaneswar for record and reference. Added Para: Provision of required drainage including connecting them to existing drain is under vendor's scope. Added Para: Vendor must install appropriate firefighting equipment and integrate the same with the existing Fire Fighting System of the Main	There should be Access control for doors in the cyclotron facility and cyclotron vault Approached Road to Cyclotron should be considered. The foundation of the building will be for G+5. <b>Vendor will provide all necessary documents to take</b> clearance from Statutory Body (ies) i.e. BDA, Municipality, Fire Office etc. Structural drawings prepared by vendor must be approved by any structural Engineer and a copy submitted to AIIMS, Bhubaneswar for record and reference. Provision of required drainage including connecting them to existing drain is under vendor's scope. Added Para: Vendor must install appropriate firefighting equipment and integrate the same with the existing Fire Fighting System of the Main hospital building. Soil testing, Rainfall data, seismic data

	<p>hospital building.                  Added Para: Soil testing, Rainfall data, seismic data and information required for construction of the building is to be collected by vendor at own cost.                  Added Para: Septic Tank connection is to be done by Vendor.                  Added Para: Water requirement for making the building functional is to be informed to AIIMS, Bhubaneswar. AIIMS will provide one source of water near the building &amp; vendor shall provide necessary arrangement for storage and distribution of water.                  Added Para: However the entire construction work (Civil + Electrical + Air conditioning) is a Turnkey work. It is expected that the provisions to be made must comply with the equipment and AERB regulatory requirements and must fulfill the statutory norms/guidelines. Anything not included in the Tender Document/BOQ/turnkey specification but required for comprehensive completion of the job must have to be executed by vendor without any extra cost.</p>	<p>and information required for construction of the building is to be collected by vendor at own cost.                  Septic Tank connection is to be done by Vendor.                  Water requirement for making the building functional is to be informed to AIIMS, Bhubaneswar. AIIMS will provide one source of water near the building &amp; vendor shall provide necessary arrangement for storage and distribution of water.                  However the entire construction work (Civil + Electrical + Air conditioning) is a Turnkey work. It is expected that the provisions to be made must comply with the equipment and AERB regulatory requirements and must fulfill the statutory norms/guidelines. Anything not included in the Tender Document/BOQ/turnkey specification but required for comprehensive completion of the job must have to be executed by vendor without any extra cost.</p>
<p>Pg 61, 62                  XVII. Plumbing works</p>	<p>All plumbing lines of area sizes of CPVC type with accessories are to be provided inside and outside the building from the main water supply source available in the campus along with 7.5 HP submersible pumps with texmo/Atlanta/Kirlosker/Crompton Greaves or equivalent make.                  Necessary sanitary fittings and sanitary line should be provided according to the size of the building                  All sanitary and water supply lines are to be drawn till the existing drainage point                  Over head tanks of PVC sintex or equivalent make are to be used with a capacity as per the requirement.</p>	<p>All plumbing lines of area sizes of CPVC type with accessories are to be provided inside and outside the building from the main water supply source available in the campus along with 7.5 HP submersible pumps with texmo/Atlanta/Kirlosker/Crompton Greaves or equivalent make.                  Necessary sanitary fittings and sanitary line should be provided <b>for the building under scope</b>.                  All sanitary and water supply lines are to be drawn till the existing drainage point                  Over head tanks of PVC sintex or equivalent make are to be used with a capacity as per the requirement.</p>
<p>Pg 62                  Para XVIII.</p>	<p>Structural glazing: Providing and fixing combination of 3mm thick aluminum composite panels of approved make and quality for the front elevation of the building is to be provided <b>(optional)</b>.</p>	<p>Structural glazing: Providing and fixing combination of 3mm thick aluminum composite panels of approved make and quality for the front elevation of the building is to be provided</p>

<p>Pg 62 Para XIX.</p>	<p>Fire alarm system: Supply, installation and commissioning of Fire Alarm System at each floor with adequate smoke detectors with hooters and MCP &amp; Panels are to be provided. Sprinkler type fire fighting systems with MS pipes are to be provided. Adequate number of firefighting equipment should be provided. The building should comply with fire regulation norms. The number of firefighting equipment must be as per the fight-fighting norms. The regulatory approval for fire-fighting will be responsibility of the vendor.</p>	<p>Fire alarm system: Supply, installation and commissioning of Fire Alarm System at each floor with adequate smoke detectors with hooters and MCP &amp; Panels are to be provided. Sprinkler type fire fighting systems with MS pipes are to be provided. Adequate number of firefighting equipment should be provided. The building should comply with fire regulation norms. The number of firefighting equipment must be as per the fight-fighting norms. <b>The vendor will support all documents to take regulatory approval.</b></p>
<p>Pg 62, 63, 64Para XX.</p>	<p>Electrical work: The total load of electrical power requirement to be calculated by vendor. <b>A separate independent transformer of appropriate capacity may be provided for the whole project if needed - quote optinally</b> Power supply by the institute will be terminated at close to proposed site. All electrical provisions including earthing etc. will be vendor's responsibility. All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below The light power socket (MK/North Wet or equivalent) to be provided in each room as per scope. Switches light and power points should be of modular type and of standard make as listed below. LED light fittings with minimum 500 Lux Illumination. Dimmer controlled incandescent light fixtures are to be provided in the console room – 2 numbers. Mains incomer MCCB for entire area under scope with adequate safety measures, volts meter, ammeter, frequency, phase indicator and earth leakage protection.</p>	<p>Electrical work: The total load of electrical power requirement to be calculated by vendor. Power supply by the institute will be terminated at close to proposed site. All electrical provisions including earthing etc. will be vendor's responsibility. All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below The light power socket (MK/North Wet or equivalent) to be provided in each room as per scope. Switches light and power points should be of modular type and of standard make as listed below. LED light fittings with minimum 500 Lux Illumination Dimmer controlled incandescent light fixtures are to be provided in the console room – 4 numbers. Mains incomer MCCB for entire area under scope with adequate safety measures, volts meter, ammeter, frequency, phase indicator and earth leakage protection. Two independent earths to be provided for equipment with copper flexible cable up to electrical room with</p>

	<p>Two independent earths to be provided for equipment with copper flexible cable up to electrical room with suitable copper earthing bus bar.</p> <p>Main LT panel as per design for distributing adequate power supply.</p> <p>Distribution boards for lighting and power separately for individual floors as per distribution SLD.</p> <p>DATA and telephone cabling for consultant rooms, and PACS room.</p> <p>Telephone cabling for isolation bed rooms and nursing station.</p> <p>Piped music system for common areas only.</p> <p>CCTV camera 16 Nos with 16 channel DVR system, LCD monitors (5 Nos.) with 1 TB storage space.</p> <p>One LED TV in general waiting area and LED TV in each radionuclide therapy ward room along with D2H connections.</p> <p>One water cooler with water filtering unit in the general reception area.</p> <p>Electrical inspection approved is mandatory for DG set.</p> <p>Intercom connectivity in each room in entire building.</p> <p>The site should be rendered pest/rodent free.</p> <p>Added Para: The total load of electrical power requirement for whole system to be calculated by the Vendor.</p> <p>Added Para: Diversity factor of load to be calculated &amp; submitted by the Vendor.</p> <p>Added Para: Voltage drop calculation sheets to be submitted by the Vendor before laying the cables/wire.</p> <p>Added Para: UPS &amp; DG capacity to be calculated by the vendor.</p> <p>Added Para: UPS and Emergency Supply (DG) to be provided by the Vendor.</p> <p>Added Para: The Vendor to be provided Automatic Voltage Controller to maintain the specified voltage to the system.</p> <p>Added Para: All electrical copper earthing lead to be done by the Vendor.</p> <p>Added Para: Chemical earthing to be provided by the vendor.</p>	<p>suitable copper earthing bus bar.</p> <p>Main LT panel as per design for distributing adequate power supply.</p> <p>Distribution boards for lighting and power separately for individual floors as per distribution SLD.</p> <p>DATA and telephone cabling for consultant rooms, and PACS room.</p> <p>Telephone cabling for isolation bed rooms and nursing station.</p> <p>Piped music system for common areas only.</p> <p>CCTV camera 16 Nos with 16 channel DVR system, LCD monitors (5 Nos.) with 1 TB storage space.</p> <p>One LED TV in general waiting area and LED TV in each radionuclide therapy ward room along with D2H connections</p> <p>One water cooler with water filtering unit in the general reception area</p> <p>Electrical inspection approved is mandatory for DG set.</p> <p>Intercom connectivity in each room in entire building.</p> <p>The site should be rendered pest/rodent free.</p> <p>The total load of electrical power requirement for whole system to be calculated by the Vendor.</p> <p>Diversity factor of load to be calculated &amp; submitted by the Vendor.</p> <p>Voltage drop calculation sheets to be submitted by the Vendor before laying the cables/wire.</p> <p>UPS &amp; DG capacity to be calculated by the vendor.</p> <p>UPS and Emergency Supply (DG) to be provided by the Vendor.</p> <p>The Vendor to be provided Automatic Voltage Controller to maintain the specified voltage to the system.</p> <p>All electrical copper earthing lead to be done by the Vendor.</p> <p>Chemical earthing to be provided by the vendor.</p> <p>All internal wiring to be carried out by FRLS copper wire/cables.</p> <p>Main incomer MCCB for entire area under scope with adequate safety measures as per I.E Rule and provide</p>
--	---	---



	<p>Added Para: All internal wiring to be carried out by FRLS copper wire/cables.</p> <p>Added Para: Main incomer MCCB for entire area under scope with adequate safety measures as per i.e Rule and provide Voltmeter, Ammeter, Energy Meter, Frequency Meter, Phase Indicator with earth leakage protection and over current protection.</p> <p>Added Para: Main LT Panel to be design with adequate spare switches i.e. MCCB, MCB &amp; etc.</p> <p>Added Para: A separate independent power source can be provided by the Institution at close to proposed site.</p> <p>Added Para: Power source to be feeded up to only to the control panel of proposed building by the Institution.</p> <p>Added Para: Preferred make of the Electrical item. MCCB - ABB, L&amp;T, Schneider. MCB - Legrand, L&amp;T, Siemens Cables - KEI, Finolex, Havells Light Fittings - Havells, Schneider, Philips</p>	<p>Voltmeter, Ammeter, Energy Meter, Frequency Meter, Phase Indicator with earth leakage protection and over current protection.</p> <p>Main LT Panel to be design with adequate spare switches ie. MCCB, MCB &amp; etc.</p> <p>A separate independent power source can be provided by the Institution at close to proposed site.</p> <p>Power source to be feeded upto only to the control panel of proposed building by the Institution.</p> <p>Preferred make of the Electrical item. MCCB - ABB, L&amp;T, Schneider. MCB - Legrand, L&amp;T, Siemens Cables - KEI, Finolex, Havells Light Fittings - Havells, Schneider, Philips</p>
Pg 64 Para XXI. Passenger lifts:	<p>Providing and installing lift from OTIS or equivalent (machine room less) for 06 passenger (including one patient trolley) with 02 stops, automatic center opening door enamel painted, S.S. handrail inside, emergency alarm, facia plate, press and speak intercom, emergency light, PVC flooring inside car, car ceiling/panels with enamel paint.</p> <p>All the regulatory permission to operate the lift will be taken by vendor.</p>	<p>Providing and installing lift from OTIS or equivalent (machine room less) for 06 passenger (including one patient trolley) with 02 stops, automatic center opening door enamel painted, S.S. handrail inside, emergency alarm, facia plate, press and speak intercom, emergency light, PVC flooring inside car, car ceiling/panels with enamel paint.</p> <p><b>The lift well has to be constructed for G+1 and lift has to be installed for G+1. However, the lift should cater G+5. Vendor should provide necessary documents to take regulatory approval.</b></p>

<p>Pg 64, 65 Para XXII. Air Conditioning works:</p>	<p>The total load of AC should calculate in each area and air conditioners required for each area have to be provided by the vendor. The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder. <b>Unit rate to be quoted.</b> <b>Duct-able package air conditioners and split air conditioners may be used according to room as well as equipment requirement and suitability. Necessary ducting to the standard of AERB is to be done.</b> <b>Humidity control should be effective to eliminate moisture condensation on equipment surface.</b> <b>The outdoor units of AC should have grill coverings to prevent theft and damage.</b> <b>Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room, which shall be as per requirement of the equipment</b> <b>Temperature ranges: 22± 2° C in all areas except equipment room which shall be as per requirement of the equipment.</b> <b>Added Para: Relative Humidity to be maintained between 50% - 70% in all areas except Equipment room, which shall be as per the requirement of the equipment.</b> <b>Apart from the centralized Air conditioning System, vendor has to provide required numbers of split ACs if it is felt necessary to maintain required temperature and humidity.</b> Added Para: Preferred makes for Air Conditioning Hitachi/Mitsubishi/Voltas/Blue Star</p>	<p>The total load of AC <b>should be calculated</b> in each area and air conditioners required for each area have to be provided by the vendor. The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder. <b>Split ACs must be provided in specific area where required like isolation wards.</b> Preferred makes for Air Conditioning Hitachi/ Mitsubishi/Voltas/Blue Star</p>
<p><b>Amendment 2 Page 7 (earlier Pg 58 Para V.)</b></p>	<p>Total area to be constructed for entire building (Cyclotron bunker, radio pharmacy lab, PET-CT and isolation ward) is 13500 square feet (provisionally ground floor 8000 and first floor 5500 sqft). Note: Total 13500 square feet will be closed area. <b>However, the internal arrangement may change if cyclotron has to place in the basement.</b></p>	<p>Total area to be constructed for entire building (Cyclotron bunker, radio pharmacy lab, PET-CT and isolation ward) is <b>14000</b> square feet (provisionally ground floor 8000 and first floor <b>6000</b> sqft). Note: Total <b>14000</b> square feet will be closed area. However, the internal arrangement may change if cyclotron has to be placed in the basement. <b>Total area is</b></p>

		<b>14000 sq ft. The cyclotron may be placed in basement or ground floor depending upon AERB approval.</b>
<b>Amendment 2 Page 8 (earlier Pg 59 Para XIII.)</b>	Timeline to complete construction of building should be maximum 12 months after getting layout approval from AERB. Maximum time of 6 months can be considered for cyclotron installation. However, the entire project (construction and installation) should run in overlapping mode and maximum time for total project after AERB approval of site and layout must be 12 months	Timeline to complete construction of building should be maximum <b>18</b> months after getting layout approval from AERB. Maximum time of 6 months can be considered for cyclotron installation. However, the entire project (construction and installation) should run in overlapping mode and maximum time for total project after AERB approval of site and layout must be <b>18</b> months. <b>Vendor may plan the civil work such that early completion of PET-CT area is possible and PET-CT installation could be done well before cyclotron installation and completion.</b>
<b>Amendment 2 Page 8 (earlier Pg 59 Para XVI. 1.)</b>	Leveling and lowering the ground excavation in all types of soil/rock etc., to facilitate the required foundation for building including back filling, providing and injecting chemical emulsion for free constructional anti-termite treatment under and around the column pits, wall trenches, plinth filling junction of wall floor etc.	Leveling and lowering the ground excavation in all types of soil/rock etc., to facilitate the required foundation for building including back filling, providing and injecting chemical emulsion for free constructional anti-termite treatment under and around the column pits, wall trenches, plinth filling junction of wall floor etc. <b>Note: Vendor has to visit the site before quoting.</b>
	<b>Added Para in Turnkey</b>	<b>Maintenance Contract: 5 years warranty and Comprehensive maintenance contract (CMC) should be quoted for a period of Five Years after the expiry of warranty period for electrical panels and HVAC.</b>

<b>Commercial Points_ Clarification</b>				
<b>Tender Page &amp; Para</b>	<b>Tender Specification</b>	<b>Name of the firm</b>	<b>Representation Received from the firm</b>	<b>Committee Recommendation</b>
Page no. 16, Point No. 20.1	20. Tender Validity 20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of 120 days (One hundred and twenty days) after the date of tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.	M/s Wipro GE	We humbly request to kindly mention the NOA validity also. You would agree that in case of site not ready/pre requisites not available the project execution for few sites extends by significantly longer duration. In such a scenario it not possible for the contract awarded firm to hold the same quoted prices. Hence request to kindly have the NOA validity also.	No Change, Tender specifications prevails.
Page no. 24, Point No. 40.2	If the quantity has not been increased to the maximum of 25% of the tendered quantity at the time of awarding the contract, the purchaser reserves the right to increase the quantity further by up to the balance available twenty five (25) per cent of the tendered quantity of goods and services (rounded off to next whole number) without any change in the unit price and other terms & conditions mentioned in the contract during the currency of the contract.	M/s Wipro GE	We humbly request to specify the timeline during which the repeat order can be placed. Currently this is open-ended and you would agree that in case of site not ready/pre requisites not available the project execution for few sites extends by significantly longer duration. In such a scenario it not possible for the contract awarded firm to accept the repeat order on the same quoted prices. Hence request to kindly specify the timeline during which the repeat order can be placed.	No Change, Tender specifications prevails.

Page no. 33, Point No. 15, 2nd Para	The warranty shall remain valid for 60 months from the date of installation & commissioning with a regular updates of newer technology as and when evolved. All regular updates of newer technology as and when evolved shall also be applicable during CMC for a period of 5 (Five) Years for all the equipment after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the purchaser/ consignee in terms of the contract, unless specified otherwise in the SCC	M/s Wipro GE	Request you to change this as "Only software Updates as part of suppliers FMI program will be provided free of charge during warranty period. Any Upgrade will be made available to the purchaser at prices to be agreed separately. But software Update will be given free of charge as long as its compatible to the supplied hardware, during the warranty period	No Change, Tender specifications prevails.
Page no. 33, Point No. 15	Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Site Modification work and it will also cover the following wherever applicable:-	M/s Wipro GE	We humbly request you to kindly mentioned that Warranty won't include the accessories, consumables, rubber goods, glass items and other perishable items.	No Change, Tender specifications prevails.
Page no. 34, Point No. 15.4	Upon receipt of such notice, the supplier shall, within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. The penalty	M/s Wipro GE	We humbly request to amend this as "Upon receipt of notice, within 8 hrs the supplier shall initiate the action to repair/replace the defective part. Completion of repair will depend on nature of repair required.  You would agree, that considering the Custom holidays & Govt. holidays it's not practical to have 24(hrs) X 7 (days) X 365 (days) as Service Criteria . Hence, we request you to kindly amend it as "Working days of the respective institute".	No Change Tender specification prevails.

	clause for non-rectification will be applicable as per tender conditions			
Page no. 34, Point No. 15.5	In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended till the completion of the original warranty period of the main equipment.	M/s Wipro GE	Please clarify this point whether the warranty extension would be upto the original equipment warranty or will be extended by the original warranty duration	Clarification is as under:- Up to the warranty of Main equipment i.e five years from the date of FAC
Page no. 34, Point No. 15.6	If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.	M/s Wipro GE	You would agree that the point "the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser" is not acceptable. Hence we humbly request you to kindly delete this line.	No Change, Tender specifications prevails.
Page no. 35, Point No. 21	TERMS AND MODE OF PAYMENT	M/s Wipro GE	Please specify the timeline within which HLL would release the payment post receipt of complete payment related required documents	No Change, Tender specifications prevails.

<p>Page no. 39, Point No. 23.1</p>	<p>Subject to GCC clause 26, if the supplier fails to deliver or install /commission any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract including opening of office in India as per the undertaking given in the qualification criteria, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods, installation, commissioning and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Since the Liquidated damages are in virtue of non-performance of services, it will attract GST or any other applicable taxes which in turn shall be deducted from the bidder. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.</p>	<p>M/s Wipro GE</p>	<p>Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods, installation, commissioning and/or services until actual delivery or performance subject to a maximum of 5% of the contract price. We humbly request you to kindly make the maximum LD as 5%.</p>	<p>No Change, Tender specifications prevails.</p>
------------------------------------	---	---------------------	--	---

Page no. 45, Point No. Note : (ii)	In case of multiple LC are opened in favour of multiple manufacturers, the delivery period for all the items under the contract shall be counted from the date of opening of the first LC only	M/s Wipro GE	Please clarify this point.	No Change, Clarification is as under :- In case of multiple LC to be open in contract , the delivery date shall be counted from the date of opening of first LC.
------------------------------------	--	--------------	----------------------------	---

**All other terms and conditions of the tender enquiry remain unaltered**