

**NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT**

**MINISTRY OF ENVIRONMENT & FORESTS**

**GOVERNMENT OF INDIA**

**KOODAL BUILDING, ANNA UNIVERSITY CAMPUS**

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**AMENDMENT # 2 DT. 30.04.2013 to INVITATION FOR BIDS (IFB)**

**NATIONAL COMPETITIVE BIDDING**

**For “Installation of Cold Room Facilities”**

**Published on 02.03.2014 in All India Edition of “The Times of India” and “The Hindu” and amendment-I published on 05.04.2014.**

**Bid No.: NCB-NPMU/W - 20(e)**

**Changes have been made to the following Sections in the Bid Document:**

**Section V- Specifications**

**The dates as revised are given in the Table below –**

Particulars	Provision as per Amendment I	Revised Provision after Amendment II
<b>Last Date of Sale of Bid</b>	<b>08.05.2014 up to 5.00 P.M.</b>	<b>20.05.2014 up to 5.00 P.M.</b>
<b>Date of Receipt of Bids</b>	<b>09.05.2014 up to 10.00 A.M.</b>	<b>21.05.2014 up to 10.00 A.M.</b>
<b>Date of Opening of Bids</b>	<b>09.05.2014 at 10.30 A.M.</b>	<b>21.05.2014 at 10.30 A.M.</b>

The full text of bid document and the **Amendment # 2** to the bid document for the procurement of the packages of goods and detailed notice on Invitation for Bids are available for downloading from the Project website:

**<http://www.ncscm.org>**

**All other terms and conditions remain unaltered.**

## Amendment to Section No.5

### Specifications for Walk -in -Cold Room

			Modification now made (Blue)		
Specifications for Walk -in -Cold Room			Specifications for Walk -in -Cold Room		
Sl. No	Particulars	Specifications	Sl. No	Particulars	Specifications
	The proposed Walk -in -Cold Room facility (2 Nos. one at ground floor and the other at second floor) at NCSCM. It shall comprise of following areas per the layout shown in <b>Drawing</b> . Vendor shall have to design, supply/fabricate, install and commission Walk -in -Cold Room areas as per following specifications:			The proposed Walk -in -Cold Room facility (2 Nos. one at ground floor and the other at second floor) at NCSCM. It shall comprise of following areas per the layout shown in <b>Drawing (1&amp;2)</b> . Vendor shall have to design, supply/fabricate, install and commission Walk -in -Cold Room areas as per following specifications:	
	<b>Ground floor cold room Specification</b>			<b>Ground floor cold room Specification</b> <b>Drawing-1</b>	
	Size of the Freezer Room : 14.05 sq.m To Maintain cold room temperature of -16°C to -20°C.			1) Freezer Room : <b>~14 sq.m</b> To Maintain cold room temperature of -16°C to -20°C.	
	Thickness of Panel : 100 mm			Thickness of Panel : <b>~ 100 mm</b>	
	Size of the Chiller Room : 14.05 sq.m To Maintain cold room temperature of 0°C to -5°C.			Chiller Room : <b>~14 sq.m</b> To Maintain cold room temperature of 0°C to -5°C.	
	Thickness of Panel : 80 mm			Thickness of Panel : <b>~80 mm</b>	
	<b>New addition</b>			<i><b>BMS compatible controllers should be provided.</b></i>	
	<b>New addition</b>			<i><b>Ceiling -mounted evaporators should be provided.</b></i>	
	<b>New addition</b>			<b>Height Cold Room racks with SS 316</b>	
	<b>New addition</b>			<i><b>Electric defrost should be provided.</b></i>	

	<b>First floor cold room Specification</b>		<b>Second floor Cold room Specification Drawing-2</b>
	Size of the Freezer Room : 11.52 sq.m To Maintain cold room temperature of 0 °C to 8°C.		Size of the Freezer Room : ~7 sq.m <b>To Maintain cold room temperature of -5 °C to +5°C.</b>
	Thickness of Panel : 100 mm		Thickness of Panel : ~100 mm (SS grade 304) with suitable thickness
	Size of the Chiller Room : 2 sq.m To Maintain cold room temperature of 0°C to -5°C.		<b>Deleted</b>
	Thickness of Panel : 80 mm		Thickness of Panel : ~80 mm (SS grade 304) with suitable thickness
	<b>New addition</b>		<i>BMS compatible controllers should be provided.</i>
	<b>New addition</b>		<i>Ceiling-mounted evaporators should be provided.</i>
	<b>New addition</b>		<b>Height adjustable Cold Room racks with SS 316</b>
	<b>New addition</b>		<i>Electric defrost should be provided.</i>
	<b>GENERAL SPECIFICATIONS OF ABOVE PANELS</b>		<b>GENERAL SPECIFICATIONS OF ABOVE PANELS</b>
	Insulation: CFC free Foamed in Place POLYURETHANE FOAM (PUF), PRE-FABRICATED panels assembled on all sides with CAM-LOCKS.		Insulation: CFC free Foamed in Place POLYURETHANE FOAM (PUF), PRE-FABRICATED panels assembled on all sides with CAM-LOCKS.
	Thermal Conductivity : 0.16 K –BTU/HR/DEG F/INCH of Panel Thickness		Thermal Conductivity : 0.16 K – BTU/HR/DEG F/INCH of Panel Thickness
	Density : 40± 2 Kg/ cu. m		Density : 40± 2 Kg/ cu. m
	Internal & External Finish : SS Sheet finish		Internal & External Finish : SS Sheet finish <b>(SS grade 304) with suitable thickness</b>
	Door Specification :		Door Specification :
	1. Size :- Standard door size		1. Size :- Standard door size

	2. Type : Flush Mounted Type Door		2. Type : Flush Mounted Type Door
	3. Hydraulic Door Closer		3. Hydraulic Door Closer
	4. Positive Cam lift Hardware		4. Positive Cam lift Hardware
	5. Vinyl Wiper Gasket with SS Bracket Bottom of Door		5. <b>Silicon sealant with SS Bracket Bottom of Door and Camlock Systems should be provided.</b>
	6. Safety Release Exit Device for Opening Door from Inside		6. Safety Release Exit Device for Opening Door from Inside
	7. Padlock Arrangement from Outside		7. Padlock Arrangement from Outside
	8. Non-Metallic Cam lock with walls and ceiling panels.		8. Non-Metallic Cam lock with walls and ceiling panels.
	Corners : Cove (Rounded) Corners		Corners : Cove (Rounded) Corners
	Temperature Indicator : Digital Type Temperature Indicator		Temperature Indicator : Digital Type Temperature Indicator
	Corner Panels : L – Shaped		Corner Panels : L – Shaped
	Partition Joints with: Direct through cam lock joint walls.		Partition Joints with: Direct through cam lock joint walls.
	Panel Joints : With Double vinyl Gasket (Pre- fabricated with the panels to make leak proof joints)		Panel Joints : With Double vinyl Gasket (Pre-fabricated with the panels to make leak proof joints)
	Lamps: 40W, CFL type, in Moisture proof fixture – one set each.		Lamps: 40W, CFL type, in Moisture proof fixture – one set each.
	<b>Panel Design should have :</b>		<b>Panel Design should have :</b>
	1. Walls/Corners, wall to ceiling and wall to wall have double bends on length for fixing sectional gaskets with return Top/Bottom of walls also has ‘U’ sect, Gasket. These PVC gaskets helps to accept fit of gaps between the panels and provides Air tight joints without using Silicon sealant.		1. Walls/Corners, wall to ceiling and wall to wall have double bends on length for fixing sectional gaskets with return Top/Bottom of walls also has ‘U’ sect, Gasket. These PVC gaskets helps to accept fit of gaps between the panels and provides Air tight joints without using Silicon sealant.
	2. Insulated Flush type doors should be of flush type with Posi-seal door closure, brushed chrome latch strap type. Cam lift hinges.		2. Insulated Flush type doors should be of flush type with Posi-seal door closure, brushed chrome latch strap type. Cam lift hinges.
	3. Door Frame/leaf perimeter is with thermal breakage with PVC / FRP Lining.		3. Door Frame/leaf perimeter is with thermal breakage with PVC / FRP Lining.
	4. Corners and Floors should have radius to impeded bacterial growth.		4. Corners and Floors should have radius to impeded bacterial growth.
	5. PVC Cam locks designed to withstand		5. PVC Cam locks designed to

	500lbs and uprooting 600lbs maximum.		withstand 500lbs and uprooting 600lbs maximum.
	Floor Design: Floor will be made of PUF Panels covered with 9 mm marine plywood & 2 mm tempered Aluminium Chequered plate on top.		<b>Floor Design: Floor will be made of PUF Panels covered with 9 mm marine plywood &amp; 2 mm tempered Chequered plate on top.</b>
	<b><u>Specification for Refrigeration equipments</u></b>		<b><u>Specification for Refrigeration equipments</u></b>
	<b><u>Condensing Unit</u></b>		<b><u>Condensing Unit</u></b>
	1. Compressor Type : Hermetic		1. Compressor Type : Hermetic
	2. Compressor Make: Emerson – Copeland for Medium and high temp and DANFOSS for Freezer room.		2. Compressor Make: Emerson – Copeland for Medium and high temp and DANFOSS for Freezer room.
	3. No. of Compressor: Each with one working - operated through independent circuits.		3. No. of Compressor: Each with one working - operated through independent circuits.
	4. No. of Circuit: One for each cold room.		4. No. of Circuit: One for each cold room.
	5. Compressor Power: 6000 BTU/Hr- Freezer room, 7000 BTU/Hr - Medium temp. room and 9000 BTU/Hr. - Ante room.		<b>5. Compressor Power: As required to maintain the required temperature.</b>
	6. Compressor running: 16 to 18 Hrs. per day.		<b>6. Compressor: As required to maintain the required temperature.</b>
	7. Refrigerant : CFC Free		7. Refrigerant : CFC Free
	8. Condensing Coil Material : 3/8" inner Grooved Copper tubes with Slit Aluminium		<b>8. Condensing Coil : Ceiling mounted evaporators</b>
	9. Power Supply: 400 V/3 Ph/50 Hz - Freezer room; 220 V /1Ph. / 50 Hz - Medium and Ante Room.		<b>9. Power Supply: Indicate Suitable power supply as required.</b>
	10. Refrigerant Connections : Flared		10. Refrigerant Connections : Flared
	11. Compressor Protection : Through High and Low Pressure Switch		11. Compressor Protection : Through High and Low Pressure Switch
	12. Condenser Fan Protection : Through Mini Circuit Breaker		12. Condenser Fan Protection : Through Mini Circuit Breaker
	13. Contactor: Common Contactor for Compressor and Fan Motors		13. Contactor: Common Contactor for Compressor and Fan Motors
	<b><u>Evaporating Unit</u></b>		<b><u>Evaporating Unit</u></b>
	1. No of Evaporators: Zanotti Imported - one each.		<b>1. No of Evaporators: Imported or equivalent - as required.</b>
	2. Air Flow Rate: Dual Flow in Ante Room with SLIM Evaporator and Low height		<b>2. Air Flow Rate: Dual Flow with</b>

Evaporators with Electric defrost in Medium temp. and Freezer room.	<b>SLIM Evaporator, Low height Evaporators with Electric defrost.</b>
3. Material of Construction: White Painted Aluminum.	<b>3. Material of Construction: SS 304</b>
4. Refrigerant: CFC Free - R 404a.	4. Refrigerant: <b>CFC Free.</b>
5. No. of Fans : Two each	5. No. of Fans : <b>As per room size</b>
6. Fan Motor : 1/15 HP or As per room size	6. Fan Motor : 1/15 HP or As per room size
7. Fan Diameter : As per room size	7. Fan Diameter : As per room size
8. Cooling Coil: ~4.5mm for Medium temp. and Ante Room and 6mm spacing for Freezer room.	8. Cooling Coil: <b>Suitable size</b>
9. Operation: Through Independent Refrigeration Circuit of Condensing Units.	9. Operation: Through Independent Refrigeration Circuit of Condensing Units.
10. Power Supply : 220 V/ 1 PH / 50 Hz	<b>Deleted</b>
11. Mounting : Ceiling Mounted	11. Mounting : Ceiling Mounted
12. Piping: Hard Copper Piping and Cabling as required between condensing and evaporating unit.	12. Piping: Hard Copper Piping and Cabling as required between condensing and evaporating unit.
<b><u>RACKS</u></b>	<b>Height adjustable RACKS ( SS grade 316)</b>
1. Size: (Three) Nos. - In each room (1 rack exclusively for sediment core, ground floor cold room, temperature -16 to -20°C )	1. Size: (Three) Nos. - In each room (1 rack exclusively for sediment core,(size : Id 6cm L:1m) ground floor cold room, temperature -16 to -20°C )
2. Material : Stainless Steel Sheet for Shelves and Aluminium Angle for Supports	<b>2. Material : Stainless Steel Sheet ( SS grade 316 ) having suitable thickness and perforation to accommodate trays of dimension of (OD: 600x400x120mm) each with a load with~15 kg.</b>
3. Thickness : 18G S/S for Shelves	3 <b>Deleted</b>
4. Sheets Joints : Aluminium Angle of suitable size	4. <b>Deleted</b>
5. Back Support : Aluminium Cross Party of suitable size	5. <b>Deleted</b>
6. Fixation : Stainless Steel Nut Bolt and	6. Fixation : Stainless Steel Nut Bolt and

	Washer		Washer
	7. Top End : Aluminium Angle in the top		7. <b>Deleted</b>
	<b><u>Voltage Stabilizer</u></b>		<b><u>Voltage Stabilizer</u></b>
	1. Input Range : 300 V to 460 V - 3 Ph - Freezer / 160 - 280V - 1 Ph - Med./Ante room		<ul style="list-style-type: none"> <li>• <b>Suitable Voltage Stabilizer with high and low voltage cut-out devise</b></li> <li>• <b>Power supply requirement should indicated.</b></li> </ul>
	2. Out Put Range: 400 V 2% - Freezer room / 220 V - Med. & Ante room.		<b>Deleted</b>
	3. Rating: 5KVA - Servo - Freezer / 3 KVA - Medium & Ante Room.		<b>Deleted</b>
	4. Type: Servo Type - Freezer / Relay type - Medium & Ante room.		<b>Deleted</b>
	5. Accessories : High and Low Voltage cut-out device		<b>Deleted</b>
	6. Nos. : One each for each machine.		<b>Deleted</b>
	7. Cooling : Air Cooled		7. Cooling : Air Cooled
	Alarm Bell for Temperature Indication: To create audio-visual alarm when temperature exceeds beyond set point.		Alarm Bell for Temperature Indication: To create audio-visual alarm when temperature exceeds beyond set point. <b>Alarm bell to be located at security room.</b>
	Trap Alarm – Audio – Visual alarm, If someone trapped inside the cold room.		Trap Alarm – Audio – Visual alarm, If someone trapped inside the cold room.
	<b><u>Miscellaneous provisions for functioning of Cold Room/Freezer Room</u></b>		<b><u>Miscellaneous provisions for functioning of Cold Room/Freezer Room</u></b>
	1. Provision of 220V/ 1Phase/ 50 Hz supply within 1.5 Rmt. Of condensing units ending in a suitable MCB.		<b>1. Suitable MCB circuit should be provided for cold room/ freezer room.</b>
	2. Doors shall be flush mounted, in-fitting and have a replaceable magnetic gasket on three sides and a neoprene adjustable gasket at the sill. In addition, each door shall be equipped with a heated viewing window. Heavy duty hinges with the provision for locking the door from outside. Sealed all joints,		<b>2. Doors shall be flush mounted, with a viewing window. Heavy duty hinges with the provision for locking the door from outside. Sealed all joints, openings, piping, electrical and ductwork penetrations. Sealed internal electrical conduit for</b>

	openings, piping, electrical and ductwork penetrations (regardless of trade). Sealed internal electrical conduit for power outlet. Programmable temperature control (Digital).		<b>power outlet. Programmable temperature control with digital display.</b>
	3. Temperature setting adjustment, alarm setting adjustment, alarm monitoring		3. Temperature setting adjustment, alarm setting adjustment, alarm monitoring
	4. 4 Alarm contacts for remote monitoring.		4. 4 Alarm contacts for remote monitoring.
	5. Provide 40 watt two tube fluorescent light fixtures suitable for the environment in each cold room.		<b>5. CFL light fixtures suitable for the environment in each cold room.</b>
	6. All accessories like light switch, temperature indicator slots in the door frame		<b>6. All accessories like light switch, temperature indicator slots in the suitable place.</b>
	7. The interior light switch to have a constant burning pilot light and the exterior switch to have an indicating pilot light.		7. The interior light switch to have a constant burning pilot light and the exterior switch to have an indicating pilot light.
	8. All refrigeration piping required shall be furnished and installed by the walk-in manufacturer.		8. All refrigeration piping required shall be furnished and installed by the walk-in manufacturer.
	9. Condensing units and evaporator coils to be from the same manufacturer		<b>9. Condensing units and evaporator coils to be from the same or reputed manufacturer.</b>
	10. Condensing units must be of adequate capacity to achieve and maintain the individual room operating temperature		10. Condensing units must be of adequate capacity to achieve and maintain the individual room operating temperature
	11. Requirements and must be sized to handle additional loads appropriate for		11. Requirements and must be sized to handle additional loads



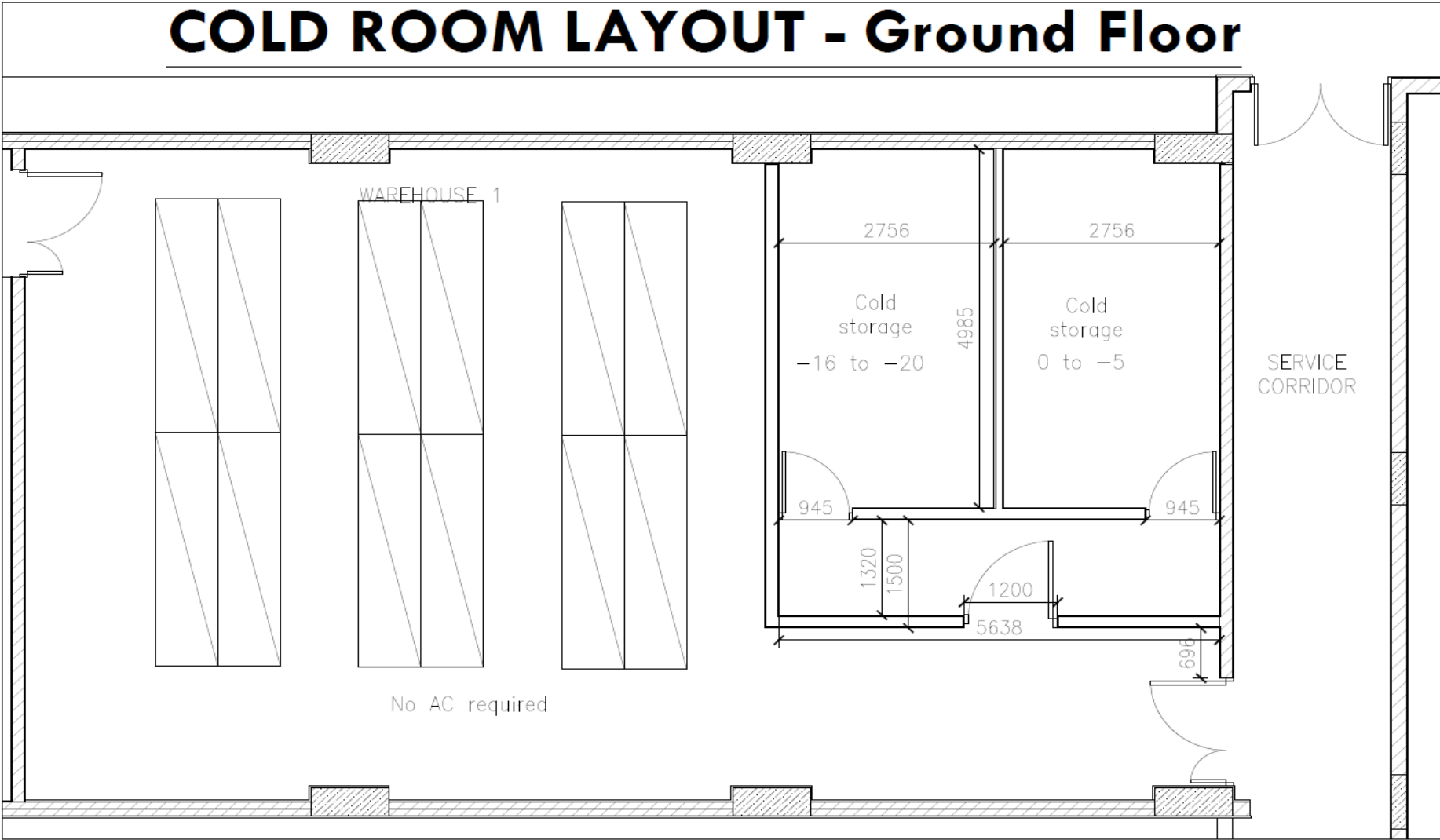
	the application.		appropriate for the application.
	12. All inter-connecting piping between the evaporator coils and condensing units shall be installed under the section.		<b>12. All inter-connecting piping between the evaporator coils and condensing units shall be installed by the supplier.</b>
	13. Refrigeration lines shall be insulated to prevent any condensation.		13. Refrigeration lines shall be insulated to prevent any condensation.
	14. Condensate drain line to be run in copper tubing to nearest floor sink. To prevent condensation, drain line is to be		14. Condensate drain line to be run in copper tubing to nearest floor sink.
	15. Insulated where it exits the insulated panels.		15. <b>Deleted</b>
	16. Pressurize and leak test the entire refrigeration system.		16. Pressurize and leak test the entire refrigeration system.
	17. To minimize penetrations, all electrical circuits shall enter the room via a minimum number of conduits, preferably one.		17. To minimize penetrations, all electrical circuits shall enter the room via a minimum number of conduits, preferably one.
	18. The walk-in supplier shall install a condensate drain line from each evaporator coil to drain located outside the walk-in. Final connection of condensate drain line to waste system.		18. The supplier shall install a condensate drain line from each evaporator coil to drain located outside the walk-in. Final connection of condensate drain line to waste system.
	19. Prior to installation of walk-ins, the bidder may carefully inspect the installed site for all prerequisite.		19. Prior to installation, the bidder <b>should</b> carefully inspect the installed site for all <b>pre-requisite</b> .
	20. Installation site needs and verify that all such work is complete to the point where this installation may properly commence.		20. <b>Deleted</b>

	21. Safety release knob: for prevention of entrapment inside the freezer/cooler room.		<b>21. Manually operating Safety release knob: for prevention of entrapment inside the freezer/cold room. Also PA system linked to security room for emergency communication.</b>
	22. The supplier should provide a warranty of at least one year. The bidder must quote for additional warranty (year wise) for subsequent four years.		22. <b>Deleted</b>
	23. Provision of drain traps at desired points.		23. Provision of drain traps at desired points.
	24. Any major or minor civil work, masonry work and other allied works to be undertaken for fixing up of the Cold Room/Freezer Room		24. Any major or minor civil work, masonry work and other allied works <b>should</b> be undertaken for fixing up of the Cold Room/Freezer Room by the <b>supplier..</b>
	25. Provision of suitable platform/stand for the condensing unit.		25. Provision of suitable platform/stand for the condensing unit.
	26. The Cold Room/freezer Room has to be supplied and installed at new building of NCSCM Chennai.		<b>The Cold Room/freezer Room has to be supplied/ installed &amp; validated at new building of NCSCM Chennai.</b>
	27. The prices quoted must include <ol style="list-style-type: none"> <li>1. Service tax or other taxes charged</li> <li>2. Installation charges inclusive of all miscellaneous fittings, etc.</li> <li>3. Freight charges, handling charges forwarding and insurance charges.</li> </ol>		28. The prices quoted must include <ol style="list-style-type: none"> <li>1. Service tax or other taxes</li> <li>2. Installation charges inclusive of all miscellaneous fittings, etc.</li> <li>3. Freight charges, handling charges forwarding and <b>transit</b> insurance charges.</li> </ol>

<p><b>Annual maintenance Charges - AMC (Maintenance, repair including supply of spare parts and updates of the supplied goods) for Year 2 after the end of Warranty period of one year. During the period of maintenance, the contractor will be responsible for rectifying any defects in construction free of cost to the employer.</b></p>
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Cold Room- Ground floor Drawing-1

Annexure-2



# Cold Room- Second floor Drawing-2

