

# *TENDER DOCUMENT FOR*



## *SUPPLY OF LIVING MODULE AND UTILITY MODULE*

*NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH*

*(Ministry of Earth Sciences, Govt. Of India)*

*Headland Sada, Vasco-da-Gama*

*GOA -403 804, INDIA.*

*Tel: 91- (0) 832 2525571 Telefax: 91- (0) 832 2525573*

*Email: [warlu62@ncaor.gov.in](mailto:warlu62@ncaor.gov.in)*

*Website: [www.ncaor.gov.in](http://www.ncaor.gov.in)*

**NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH**  
 (Ministry of Earth Sciences, Govt. Of India),  
 HEADLAND SADA, VASCO-DA-GAMA,  
 GOA - 403 804.

**TENDER NO. NCAOR/AES-11297/PT-07.**  
**TENDER FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE.**

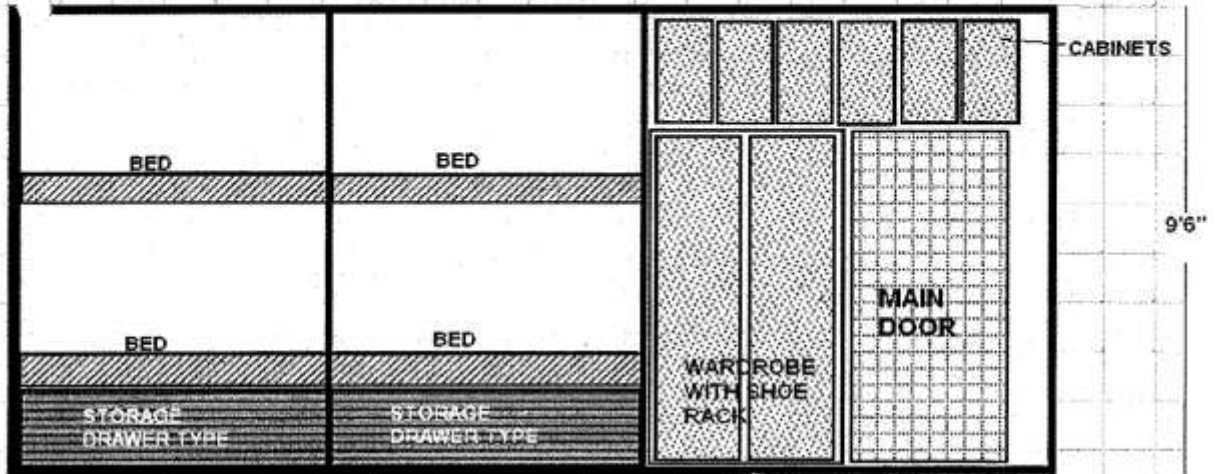
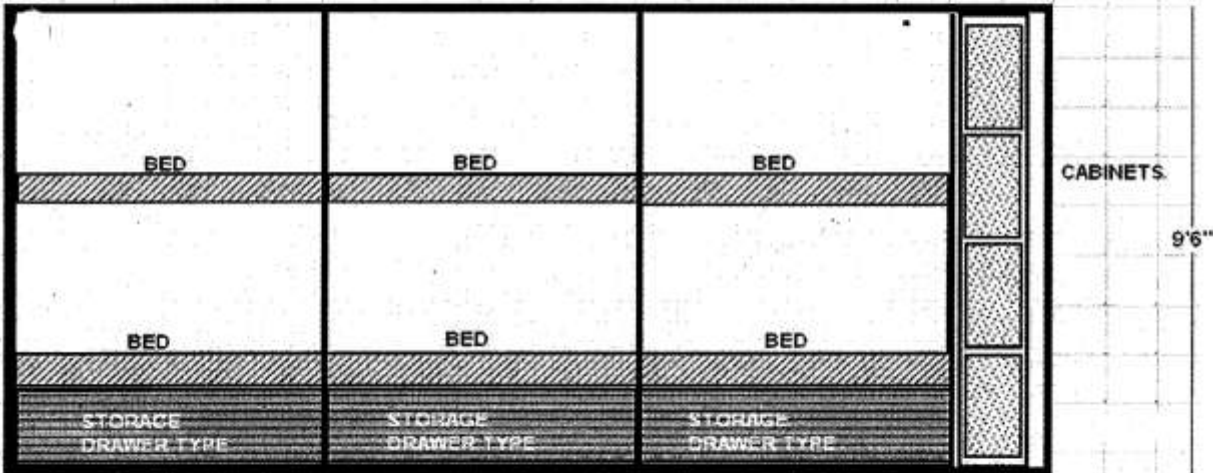
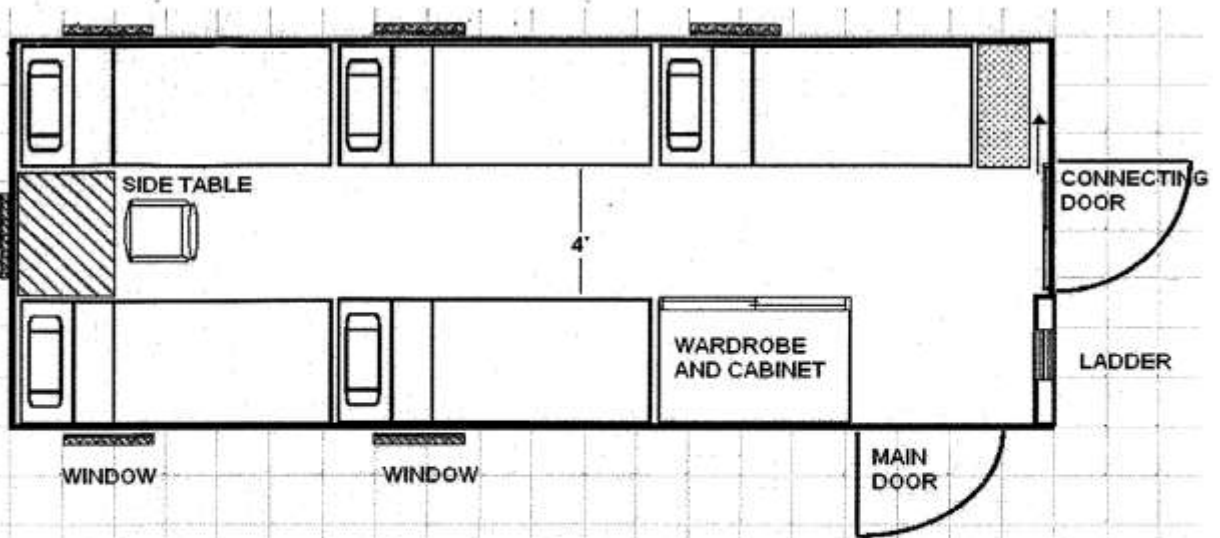
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|----|--|--|
| 1. | <p><b>SUPPLY OF MOBILE LIVING AND UTILITY MODULE COMPRISING TWO INDEPENDENT UNITS CONNECTED THROUGH VESTIBULE AND MOUNTED ON TWO TRAILERS OF 20 FEET ISO CONTAINER SIZE.</b></p> <p><b>DESIRED SPECIFICATION AND INDICATIVE DRAWINGS ATTACHED</b></p> <p><b>BIDDER HAS TO PROVIDE DETAIL DRAWINGS ATTACHED</b></p> <p><b>BIDDER HAS TO PROVIDE DETAIL DRAWINGS AND LISTS OF ITEMS WITH MAKE AND MODELS OF COMPONENTS USED.</b></p> <p><b>ALL FIXTURES, FURNITURES AND COMPONENTS SHOULD WITHSTAND TEMPERATURES UP TO -20 DEGREE CELCIUIS</b></p> <p><b>Specifications</b></p> <p><b>Quantity</b></p> | <p>As per Annexure-I</p> <p>4 SETS</p>   |
| 2. | General Terms and Conditions   | As per Annexure II   |
| 3. | Cost of Tender Documents (In Person)   | US \$ 50.00      Rs. 2000.00   |
| 4. | Cost of Tender Documents (By Post)   | US \$ 65.00      Rs. 2050.00   |
| 5. | EMD  | <p><b>Tender documents can be downloaded by tenderers from NCAOR website. In case a tenderer is using the documents and forms downloaded from the website, the cost of tender documents shall be sent in the form of Bank Draft in a separate envelope along with the tender.</b></p> <p><b>A) Foreign Bidders</b> shall submit <b>EMD</b> along with their tender, <b>in the form of a <u>bank guarantee only</u></b> for US\$ 1700.00 (US \$ One Thousand Seven Hundred only)</p> <p><b>B) Indian Bidders</b> shall submit <b>EMD</b> along with their tender, either by DD drawn in favor of NCAOR, for a sum of Rs. 1,00,000.00 (Rupees One Lakh only) payable at Vasco-da-Gama only.</p> <p style="text-align: center;"><b>Or</b></p> <p><b>In the form of a bank guarantee</b> for a sum of Rs. 1,00,000.00 (Rupees One Lakh only)</p> |
| 6. | Last Date and time for issue of tender documents   | <p><b>MONDAY</b></p> <p><b>27.07.2015</b></p> <p>1600Hrs (IST)</p>   |
| 7. | Last Date and time for submission of sealed quotations   | <p><b>TUESDAY</b></p> <p><b>28.07.2015</b></p> <p>1700Hrs (IST)</p>  |
| 8. | Date and time of tender opening  | <p><b>WEDNESDAY</b></p> <p><b>29.07.2015</b></p> <p>1000Hrs (IST)</p>  |

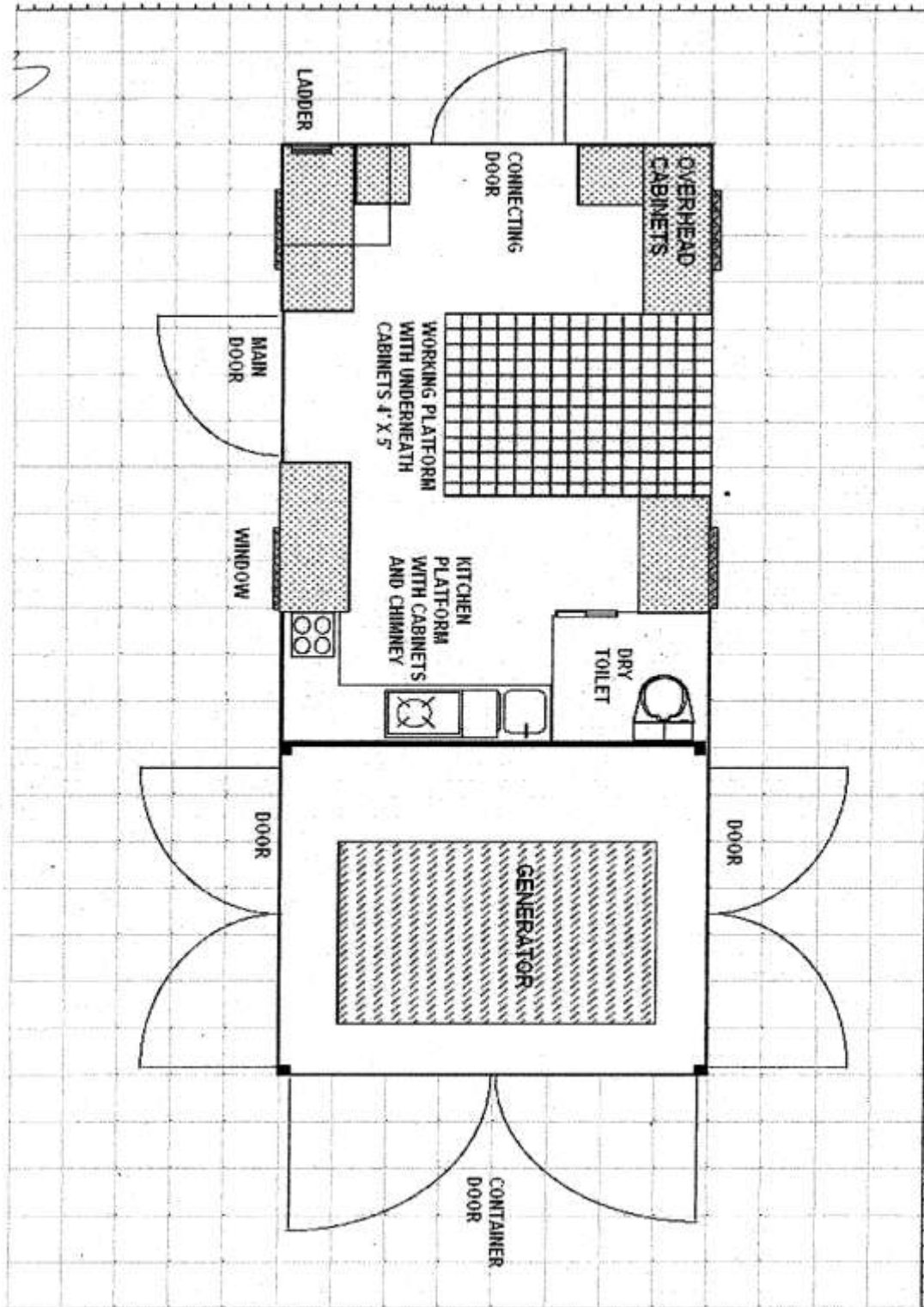
**SPECIFICATION FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE.****MOBILE LIVING MODULE**

|           |  |
|-----------|--|
| <b>1</b>  | DIMENSIONS LENGTH 20'-24' BREADTH 8'-10' AND HEIGHT 9'6". MODULES SHOULD BE BUILT AROUND 20' ISO CONTAINER FRAME, SO THAT IT COULD BE FIT ON 20'X8' STANDARD SLEDGE AND TRAILER WITH ISO TWIST LOCKS   |
| <b>2</b>  | MODULES ARE FOR TRANSPORTATION AND GOING TO BE PLACED ON TRAILERS WITH ISO TWIST LOCKS   |
| <b>3</b>  | NO PART OF THE CONTAINERIZED MODULES WILL PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |
| <b>4</b>  | BUNK BED: 5 X TWO TIER BUNKS (6'X2'6") WITH STORAGE AREA UNDERNEATH BOTTOM BUNK (DRAWER TYPR)  |
| <b>5</b>  | TWO LIGHT WEIGHT LADDER FOR BUNK BEDS  |
| <b>6</b>  | ELECTRIC SUPPLY AND FITTING:220V DISTRIBUTION BOARD, EARTH LEAKAGE, 6X5/15 AMP PLUG POINT (INDIAN TYPE), 3X4 FEET SINGLE LED TUBE LIGHT 2 X EXTERNAL BULKHEAD LED LIGHTS, 1X EXTERNAL CONNECTOR POWER SUPPLY. ELECTRICAL WIRING SHOULD BE SUSTAINABLE TO-20 DEGREE CELCIUS                               |
| <b>7</b>  | WALL STORAGE CABINETS AS PER THE DESIGN  |
| <b>8</b>  | WARDROBE WITH SLIDING DOOR FOR CLOTH HANGERS (FOR OVERALLS) WITH SHOE RACK (HEIGHT 2') WITH HEATING OPTION   |
| <b>9</b>  | SIDE TABLE WITH POWER POINTS, WORKING LAMPS AND CABLE VENT FOR SATELLITE PHONES AND VHF ANTENNA  |
| <b>10</b> | SQUARE SHAPE WINDOW, SHALL BE CONSTRUCTED WITH DOUBLE LAYERED TOUGHENED GLASS OR EQUIVALENT.   |
| <b>11</b> | CONNECTING DOORS (~6'6" X 3') LIGHT SLIDING DOOR INSIDE AND OUTSIDE STEEL HINGE DOOR, DOOR HANDLES SHOULD BE MADE OF 1" THICK STEEL CIRCULAR ROD (~10"X3") AND SHALL BE INSULATED, DOOR GASKET SHALL BE OF EPDM RUBBER TYPE OR EQUIVALENT AND DOOR WILL BE CAPABLE OF SWINGING APPROXIMATELY 270 DEGREES |
| <b>12</b> | FOLDABLE WALKWAY OR CONNECTOR MIDLANDING SLIP RESISTANT AR CONNECTING DOOR MODULE, CONSTRUCTED WITH STEEL EXPANDED MESH OF LENGTH 4'-6'.   |
| <b>13</b> | ANTI SKID OIL PROOF, WATER PROOF AND FIRE RETARDENT RUBBER FLOOR, WITH ~30MM POLYURETHANE INSULATION   |
| <b>14</b> | STEEL MAIN DOOR TO EXTERIOR 6'6" X 3' WITH INSULATION AND GASKET TO AVOID SNOW INGERATION  |
| <b>15</b> | EURO ESCAPE HATCH ON ROOF 24" DIAMETER AT SUITABLE PLACE   |
| <b>16</b> | INSULATION 3" WALLS, CEILING   |
| <b>17</b> | OUTSIDE LADDER TO CLIMB ON TOP OF THE MODULES SHOULD BE FLUSHED WITHIN BODY OF MODULES AND SHOULD NOT PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |

| <b>UTILITY AND GENERATOR MODULE</b> |  |
|-------------------------------------|--|
| <b>1</b>                            | DIMENSIONS LENGTH 20'-24' BREADTH 8'-10' AND HEIGHT 9'6". MODULES SHOULD BE BUILT AROUND 20' ISO CONTAINER FRAME, SO THAT IT COULD BE FIT ON 20'X8' STANDARD SLEDGE AND TRAILER WITH ISO TWIST LOCKS |
| <b>2</b>                            | MODULES ARE FOR TRANSPORTATION AND GOING TO BE PLACED ON TRAILERS WITH ISO TWIST LOCKS   |
| <b>3</b>                            | NO PART OF THE CONTAINERIZED MODULES WILL PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |

|           |  |
|-----------|--|
| <b>4</b>  | ELECTRIC SUPPLY AND FITTING:220 V DISTRIBUTION BOARD, EARTH LEAKAGE, 6 X 5/15 AMP PLUG POINT (INDIAN TYPE), 3 X 4 FEET SINGLE LED TUBE LIGHT 2 X EXTERNAL BULKHEAD LED LIGHTS, 1 X EXTERNAL CONNECTOR POWER SUPPLY. ELECTRICAL WIRING SHOULD BE SUSTAINABLE TO-20 DEGREE CELSIUS.                      |
| <b>5</b>  | WALL STORAGE CABINETS AS PER THE DESIGN AT HEIGHT OF 7' FROM GROUND AND ON THE FLOOR BENCHES WITH STORAGE CABINET  |
| <b>6</b>  | CENTRE WORKING PLATFORM WITH STORAGE CABINET, APPROXIMATE DIMENSION LENGTH 4'-5' BREADTH 4'-6' HEIGHT 2'6"   |
| <b>7</b>  | SQUARE SHAPE WINDOW, SHALL BE CONSTRUCTED WITH DOUBLE LAYERED TOUGHENED GLASS OR EQUIVALENT  |
| <b>8</b>  | CONNECTING DOORS(~6'6"X3') LIGHT SLIDING DOOR INSIDE AND OUTSIDE STEEL HINGE DOOR, DOOR HANDLES SHOULD BE MADE OF 1" THICK STEEL CIRCULAR ROD (~10"X3") AND SHALL BE INSULATED, DOOR GASKET SHALL BE OF EPDM RUBBER TYPE OR EQUIVALENT AND DOOR WILL BE CAPABLE OF SWINGING APPROXIMATELY 270 DEGREES. |
| <b>9</b>  | FOLDABLE WALKWAY OR CONNECTOR MIDLANDING SLIP RESISTANT AND CONNECTING DOOR MODULE, CONSTRUCTED WITH STEEL EXPANDED MESH OF LENGTH 6'  |
| <b>10</b> | ON TOP OF CONTAINERS STANDARD FLOOR, RUBBERIZED FLOORING OR VINYL FLOOR MINIMUM 3MM THICK (ANTI SLIP), WITH ~30MM POLYURETHANE INSULATION WITH FLOOR COVERING ON TOP OF STANDARD CONTAINER WOODEN FLOOR.   |
| <b>11</b> | STEEL MAIN DOOR TO EXTERIOR 6'6"X3' WITH INSULATION AND GASKET TO AVOID SNOW INGERATION  |
| <b>12</b> | EURO ESCAPE HATCH ON ROOF 24" DIAMETER AT SUITABLE PLACE   |
| <b>13</b> | INSULATION 3" WALLS, CEILING   |
| <b>14</b> | FLUSHED LADDER TO BODY OF CONTAINER  |
| <b>15</b> | KITCHEN BENCH L SHAPED WITH CHIMNEY, STORAGE CABINETS, SPACE OF DUAL INDUCTION TOP AND 30 LITRE MICROWAVE WITH MINIMUM 3 NOS 15 AMP AND 3 NOS 5 AMP POWER POINTS   |
| <b>16</b> | DRY TOILET OF 4'X4'X7'6" WITH INCLINED TOILET SEAT AND EXHAUST VENT  |
| <b>17</b> | OUTSIDE LADDER TO CLIMB ON TOP OF THE MODULES SHOULD BE FLUSHED WITHIN BODY OF MODULES AND SHOULD NOT PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |
| <b>18</b> | FIRE RESISTANT PARTITION WALL FOR GENERATOR AREA AND TOILET AREA.  |
| <b>19</b> | EXHAUST FOR GENERATOR, DRY TOILET AND KITCHEN CHIMNEY.PREFERABLE AT ONE PLACE.   |
| <b>20</b> | AIR COOLED SILENT GENERATOR OF APPROXIMATELY 25 KVA POWER RATING.  |
| <b>21</b> | FUEL TANK OF CAPACITY OF 500 LITRE   |
| <b>22</b> | THREE SIDE DOORS IN GENERATOR AREA, ALL ARE OPENABLE OUTSIDE WITH DESIGN AND CONSTRUCTION OF DOORS AS PER ISO STANDARD CONTAINER DOORS.  |
|           | BOTH MODULES SHOULD OF SAME DIMENSIONS   |





## 1. General

**1.1 Operational environment:** The modules will be designed and constructed for carriage by marine (on or below deck), road and rail throughout the world. All materials used in the construction will be to withstand extremes of temperature range from  $-40^{\circ}$ ( $-40^{\circ}$ ) to  $+70^{\circ}$ ( $+158^{\circ}$ ) without effect on the strength of the basic structure and water tightness.

**1.2 Handling:** The module will be constructed to be capable of being handled without any permanent deformation under the following conditions:

1.2.1. Lifting, full or empty, at top vertically by means of spreaders fitted with hooks, shackles or twist locks.

1.2.2. Lifting, full or empty, at bottom fittings using slings with terminal fittings at any angles between vertical and 45 degrees to the horizontal.

**1.3 Transportation:** The module will be constructed to be suitable for transportation in the following modes:

1.3.1. Marine: In the ship cell guides of vessels, seven (7) high stacked. On the deck of vessels, four (4) high stacked and secured by vertical and diagonal wire lashings.

1.3.2. Road: On flat bed or skeletal chassis, secured by twist locks or equivalent at the bottom fittings.

1.3.3. Rail: On flat cars or special container cars secured by twist locks or equivalent at the bottom fittings.

## 2. Materials

**2.1 General:** The following materials will be used in the construction of module:

**2.2 Part specification:**

*Parts Materials by JIS*

2.2.1. All steel except screws, rivets, Anti-corrosive steel. SPA-H bolts/nuts, door hardwares or equivalent and other shown on drawings Y.P. : 35 kg/mm<sup>2</sup> and specification T.S. : 49 kg/mm<sup>2</sup>

2.2.2. Rear corner posts (inner) Rolled high tensile steel. SM50A  
Y.P. : 33 kg/mm<sup>2</sup>

T.S. : 50 kg/mm<sup>2</sup>

2.2.3. Door hinges S25C

Y.P. : 27 kg/mm<sup>2</sup>

T.S. : 45 kg/mm<sup>2</sup>

2.2.4. Door locking bars Structural steel round pipe. STK41

Y.P. : 24 kg/mm<sup>2</sup>

T.S. : 41 kg/mm<sup>2</sup>

2.2.5. Corner fittings Casted weldable steel. SCW49

Y.P. : 28 kg/mm<sup>2</sup>

T.S. : 49 kg/mm<sup>2</sup>

2.2.6. Locking gear cams and keepers S20C

Y.P. : 25 kg/mm<sup>2</sup>

T.S. : 41 kg/mm<sup>2</sup>

2.2.7. Door hinge pins Stainless steel. SUS304 Gasket retainers

2.2.8. Door gasket EPDM

2.2.9. Floor board 19-ply Hardwood plywood.

2.2.10. Ventilator ABS resin labyrinth type

\* Note: Y.P. - Yielding Point

T.S. - Tensile Strength

### 3. Construction

#### 3.1 General

3.1.1. The modules will be constructed with steel frames, fully vertical-corrugated steel sides and front wall, horizontal-corrugated steel double doors at rear end, die-stamped steel roof, wooden flooring, corrugated double hinged doors and ISO corner fittings at eight appropriate place.

3.1.2. All exterior welding including the base frames will be continuous welding using CO<sub>2</sub> gas to give perfect watertight properties.

3.1.3. Interior welds - when needed - will be stitched with a minimum bead length of 25 mm.

3.1.4. Gaps between adjacent components to be welded will not exceed 3 mm or the thickness of the parts being welded.



- 3.1.5. Chloroprene sealant is to be applied at periphery of floor surface and inside unwelded seams, butyl sealant is used to caulk at invisible seam of floor joint area and between door gasket and frame.
- 3.1.6. The internal bend radii of pressed sections of steel will be not less than 1.5 time the thickness of the materials being pressed.
- 3.1.7. The wooden floor will be fixed to the base frames by zinc plated self-tapping screws.

**3.2 Base frame structure:** Base frame will be composed of two bottom side rails, eighteen cross members, and a forklift pockets

- 3.2.1. *Bottom side rail:* Each bottom side rail is built of a 50x158x30x4.5 mm thick cold formed channel section steel made in one piece. The floor guide rails of 3.0 mm thick pressed angle section steel are provided to the bottom side rails by staggered stitch welding. The lower flange of the bottom side rail is outward so as to facilitate easy removal of the cross members during repair and of less susceptible corrosion. Reinforcement plates to be made of 4.5 mm thick "L" type steel is welded to the bottom surface of both side rails around the bottom corner fitting.
- 3.2.2. *Cross member:* The cross members are made of pressed channel section steel with a dimension of 45x122x45x4.0 mm for the normal areas and 75x122x45x4.0 mm for the floor butt joints. The large one is reinforced by three 4.0 mm thick gussets. The cross members are placed fully to withstand floor strength and welded to each bottom side rail.
- 3.2.3. *Floor:* The wooden floor to be constructed with 28 mm thick 19-ply hardwood plywood boards are laid longitudinally on the transverse members between the 4.0 mm thick flat bar floor center rail and the 3.0 mm thick pressed angle section steel floor guide rails stitched welded to the bottom side rails. The floor boards are tightly secured to each transverse member by self-tapping screws, and all butt joint areas and peripheries of the floor boards are caulked with sealant.
- 1) Wood species: Apitong or Keruing.
  - 2) Glue: Phenol-formaldehyde resin.
  - 3) Treatment:
    - a) Preservative: Meganium or Equivalent. In accordance with Australian Health Department Regulations.
    - b) Average moisture content will be 14% before installation.
- 3.2.4. *Self-tapping screw:* Each floor board is fixed to the transverse members by zinc plated self-tapping screws that are 8.0 mm dia. shank x 16 mm dia. head x 45 mm

length, and fastened by five screws per cross member but six screws at joint areas. Screw heads are to be countersunk with about 2 mm below the floor top surface.

### **3.3 Door**

- 3.3.1. Each doors will be capable of swinging approximately 270 degrees.
- 3.3.2. Each door is constructed with two 3.0 mm thick pressed channel section steel horizontal frames for the top and bottom, rectangular hollow section vertical frames for the post side and center side of door respectively, 2.0 mm thick horizontally corrugated steel door panel, which are continuously welded within frames.
- 3.3.3. Two sets of galvanized "BE2566MN" bolt on model locking assemblies with forged steel handles are fitted to each door using zinc plated steel bolts and Huck bolts..
- 3.3.4. Each door is suspended by four hinges being provided with stainless steel pins, self-lubricating nylon bushings and the brass washers.
- 3.3.5. The door gasket to be made of an extruded J&C-type EPDM rubber is installed to the door peripheral frames with stainless steel gasket retainers which must be caulked with butyl sealant before installation of gasket, and fastened by stainless steel rivets at a pitch of 150 mm.

### **3.4 Roof structure:** The roof will be constructed with corrugated (die-stamped) steel panels and corner protection plates.

- 3.4.1. *Roof panel:* The roof panel is constructed with 2.0 mm thick die-stamped steel sheets having about 5.0 mm upward smooth camber, which are welded together to form one panel and continuously welded to the top side rails and top end rails. All overlapped joints of inside unwelded seams are caulked with chloroprene sealant.
- 3.4.2. *Protection plate:* Each corner of the roof in the vicinity of top corner fitting is reinforced by 4.0 mm thick rectangular steel plate to prevent the damage caused by the mishandling of lifting equipment.

### **3.5 Top side rail:** Each top side rail is made of a 60x60x3.0 mm thick square hollow section steel.

### **3.6 Wall:** The trapezium section wall is constructed with 2.0 mm thick fully vertically continuous-corrugated steel outer panels near the each post and 1.6 mm thick intermediate inner panels, which are butt welded together to form one panel and continuously welded to the side rails and corner posts. All overlapped joints of inside

are caulked with chloroprene sealant.

#### 4. Surface preservation

##### 4.1 Surface preparation

- 4.1.1. All steel surfaces - prior to forming or after - will be fully abrasive shot blasted conforming to Swedish Standard SA 2 1/2 to remove all rust, dirt, mill scale and all other foreign materials. The shot blasted surface profile shall be have a maximum peak to valley height not exceeding 50 microns and average peak to valley height of about 25 microns.
- 4.1.2. All door/windows/walkway hardwires will be hot-dipping zinc galvanized with approximately 75 microns thickness.
- 4.1.3. All fasteners such as self-tapping screws and bolts, nuts, hinges, cam keepers and lashing fittings will be electro-galvanized with approximately 13 microns thickness.

##### 4.2 Coating

- 4.2.1. *Prior to assembly:* All steel surfaces will be coated with 10 microns thick two-pack polyamide cured zinc rich epoxy primer immediately after shot blasting, and then dried up in drying room.
- 4.2.2. *After assembly:* All weldments will be shot blasted to remove all welding fluxes, splatters, burnt primer coatings caused by welding heat, and other foreign materials. Then all blasted weldments will be coated with zinc rich epoxy primer.
- 4.2.3. *The total dry film will be (microns):*  
All surface of the assembled modules will be have coating system as follows:

| <i>Where</i>             | <i>Paint name</i>                     | <i>DFT (u)</i> |
|--------------------------|---------------------------------------|----------------|
| Exterior surface         | Epoxy zinc rich primer                | 30             |
| Epoxy primer             | Chlorinated rubber or Acrylic topcoat | 40             |
| Color:                   |                                       | 40             |
|                          | <b>Total:</b>                         | <b>110</b>     |
| Interior surface         | Epoxy zinc rich primer                | 20             |
| Epoxy high build coating |                                       | <b>40</b>      |
|                          | <b>Total:</b>                         | <b>60</b>      |
| Under structure          | Epoxy zinc rich primer                | <b>20</b>      |
| Bitumen                  |                                       | <b>190</b>     |
|                          | <b>Total:</b>                         | <b>210</b>     |

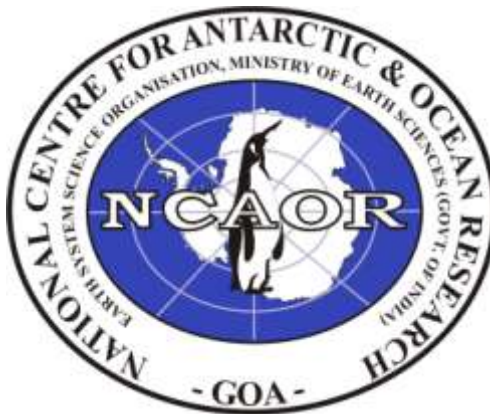
## 5. Marking

### 5.1 Materials

- 5.1.1. Decal: - Painted on body with seven (7) years guarantee without tenting or color fading.
- 5.1.2. Certification plate: 18-18 type Stainless steel plates to be chemically etched by acid.

### 5.2 Specifications

- 5.2.1. Identification plates such as consolidated data plate consisting of CSC will be riveted on the door permanently by stainless steel rivets. The entire periphery except underside will be caulked with sealant.
- 5.2.2. The owner's serial numbers and manufacturer's serial numbers will be stamped on top face of the bottom rear corner fitting.
- 5.2.3. Logo and full address should be painted on both 20' side wall as shown:



## "INDIAN ANTARCTIC EXPEDITION"

National Centre for Antarctic and Ocean Research ,  
 Earth System Science Organisation (ESSO)  
 Ministry of Earth Sciences , Govt. of India  
 Headland Sada, Vasco-da-Gama, Goa- 403804, India

## 6. Guarantee

**6.1 Structure** All the modules shall be guaranteed by manufacturer to be free from defects in materials, workmanship (e.g., welding, painting, protrusion etc.) and structure for a period of two (2) year from the date of acceptance of the modules by the buyer.

### 6.2 Painting

6.2.1. The paint system coated on the modules surface shall be guaranteed to be free from corrosion and failure for a period of three (3) years from the date of acceptance of the module by the buyer.

6.2.2. Corrosion is defined as rusting which exceeds RE3 (European Scale of degree of Rusting) on at least ten (10) percent of the total module surface, excluding that resulting from impact or abrasion damage, contact with solvents or corrosive chemicals and abnormal use.

6.2.3. If the corrosion exceeds RE3 as defined above within the guarantee period, inspection of the corrosion shall be carried out by the buyer, and paint manufacturer to detect the cause. As the result of the inspection, if it is mutually agreed and accepted that the corrosion has been caused by the defective paint quality and/or poor workmanship, and/or paint manufacturer shall correct the defect on their accounts.

**6.3 Decals:** Decals applied on the module shall be guaranteed for a period of seven (7) years without peeling off, tenting or color fading if decals are supplied by manufacturer.

**TECHNICAL COMPLIANCE STATEMENT FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE.**

| SR NO | SPECIFICATIONS FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE | COMPLIED/ NOT COMPLIED | EXTRA FEATURES |
|-------|---|------------------------|----------------|
|-------|---|------------------------|----------------|

|    |  |  |  |
|----|--|--|--|
| 1  | DIMENSIONS LENGTH 20'-24' BREATH 8'-10' AND HEIGHT 9'6". MODULES SHOULD BE BUILT AROUND 20' ISO CONTAINER FRAME, SO THAT IT COULD BE FIT ON 20'X8' STANDARD SLEDGE AND TRAILER WITH ISO TWIST LOCKS  |  |  |
| 2  | MODULES ARE FOR TRANSPORTATION AND GOING TO BE PLACED ON TRAILERS WITH ISO TWIST LOCKS   |  |  |
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| 4  | BUNK BED: 5 X TWO TIER BUNKS (6'X2'6") WITH STORAGE AREA UNDERNEATH BOTTOM BUNK (DRAWER TYPR)  |  |  |
| 5  | TWO LIGHT WEIGHT LADDER FOR BUNK BEDS  |  |  |
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| 9  | SIDE TABLE WITH POWER POINTS, WORKING LAMPS AND CABLE VENT FOR SATELLITE PHONES AND VHF ANTENNA  |  |  |
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| 11 | CONNECTING DOORS (~6'6" X 3') LIGHT SLIDING DOOR INSIDE AND OUTSIDE STEEL HINGE DOOR, DOOR HANDLES SHOULD BE MADE OF 1" THICK STEEL CIRCULAR ROD (~10"X3") AND SHALL BE INSULATED, DOOR GASKET SHALL BE OF EPDM RUBBER TYPE OR EQUIVALENT AND DOOR WILL BE CAPABLE OF SWINGING APPROXIMATELY 270 DEGREES |  |  |
| 12 | FOLDABLE WALKWAY OR CONNECTOR MIDLANDING SLIP RESISTANT AR CONNECTING DOOR MODULE, CONSTRUCTED WITH STEEL EXPANDED MESH OF LENGTH 4'-6'.   |  |  |
| 13 | ANTI SKID OIL PROOF, WATER PROOF AND FIRE RETARDENT RUBBER FLOOR, WITH ~30MM POLYURETHANE INSULATION   |  |  |
| 14 | STEEL MAIN DOOR TO EXTERIOR 6'6" X 3' WITH INSULATION AND GASKET TO AVOID SNOW INGERATION  |  |  |
| 15 | EURO ESCAPE HATCH ON ROOF 24" DIAMETER AT SUITABLE PLACE   |  |  |
| 16 | INSULATION 3" WALLS, CEILING   |  |  |
| 17 | OUTSIDE LADDER TO CLIMB ON TOP OF THE MODULES SHOULD BE FLUSHED WITHIN BODY OF MODULES AND SHOULD NOT PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |  |  |
|    | <b>UTILITY AND GENERATOR MODULE</b>  |  |  |

|           |  |  |  |
|-----------|--|--|--|
| <b>1</b>  | DIMENSIONS LENGTH 20'-24' BREATH 8'-10' AND HEIGHT 9'6". MODULES SHOULD BE BUILT AROUND 20' ISO CONTAINER FRAME, SO THAT IT COULD BE FIT ON 20'X8' STANDARD SLEDGE AND TRAILER WITH ISO TWIST LOCKS  |  |  |
| <b>2</b>  | MODULES ARE FOR TRANSPORTAION AND GOING TO BE PLACED ON TRAILERS WITH ISO TWIST LOCKS  |  |  |
| <b>3</b>  | NO PART OF THE CONTAINERIZED MODULES WILL PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.   |  |  |
| <b>4</b>  | ELECTRIC SUPPLY AND FITTING:220 V DISTRIBUTION BOARD, EARTH LEAKAGE, 6X5/15 AMP PLUG POINT (INDIAN TYPE), 3X4 FEET SINGLE LED TUBE LIGHT 2X EXTERNAL BULKHEAD LED LIGHTS, 1X EXTERNAL CONNECTOR POWER SUPPLY. ELECTRICAL WIRING SHOULD BE SUSTAINABLE TO-20 DEGREE CELCIUS.                            |  |  |
| <b>5</b>  | WALL STORAGE CABINETS AS PER THE DESIGN AT HEIGHT OF 7' FROM GROUND AND ON THE FLOOR BENCHES WITH STORAGE CABINET  |  |  |
| <b>6</b>  | CENTRE WORKIG PLATFORM WITH STORAGE CABINET, APPROXIMATE DIMENSION LENGTH 4'-5' BREATH 4'-6' HEIGHT 2'6"   |  |  |
| <b>7</b>  | SQUARE SHAPE WINDOW, SHALL BE CONSTRUCTED WITH DOUBLE LAYERED TOUGHENED GLASS OR EQUIVALENT  |  |  |
| <b>8</b>  | CONNECTING DOORS(~6'6"X3') LIGHT SLIDING DOOR INSIDE AND OUTSIDE STEEL HINGE DOOR, DOOR HANDLES SHOULD BE MADE OF 1" THICK STEEL CIRCULAR ROD (~10"X3") AND SHALL BE INSULATED, DOOR GASKET SHALL BE OF EPDM RUBBER TYPE OR EQUIVALENT AND DOOR WILL BE CAPABLE OF SWINGING APPROXIMATELY 270 DEGREES. |  |  |
| <b>9</b>  | FOLDABLE WALWAY OR CONNECTOR MIDLANDING SLIP RESISTANT AR CONNECTING DOOR MODULE, CONSTRUCTED WITH STEEL EXPANDEND MESH OF LENGTH 6'   |  |  |
| <b>10</b> | ON TOP OF CONTAINER STANDARD FLOOR, RUBBERIZED FLOORING OR VINYL FLOOR MINIMUM 3MM THICK (ANTI SLIP), WITH ~30MM POLYURETHANE INSULATION WITH FLOOR COVERING ON TOP OF STANDARD CONTAINER WOODEN FLOOR.  |  |  |
| <b>11</b> | STEEL MAIN DOOR TO EXTRERIOR 6'6"X3' WITH INSULATION AND GASKET TO AVOID SNOW INGERATION   |  |  |
| <b>12</b> | EURO ESCAPE HATCH ON ROOF 24" DIAMETER AT SUITABLE PLACE   |  |  |
| <b>13</b> | INSULATION 3" WALLS, CEILING   |  |  |
| <b>14</b> | FLUSHED LADDER TO BODY OF CONTAINER  |  |  |
| <b>15</b> | KITCHEN BENCH L SHAPED WITH CHIMNEY, STORAGE CABINETS, SPACE OF DUAL INDUCTION TOP AND 30 LITRE MICROWAVE WITH MINIMUM 3 NOS 15AMP AND 3 NOS 5AMP POWER POINTS.  |  |  |
| <b>16</b> | DRY TOILET OF 4'X4'X7'6" WITH INCIONLET TOILET SEAT AND EXHAUST VENT   |  |  |

|       |  |  |  |
|-------|--|--|--|
| 17    | OUTSIDE LADDER TO CLIM ON TOP OF THE MODULES SHOULD BE FLUSHED WITHIN BODY OF MODULES AND SHOULD NOT PROTRUDE BEYOND THE EXTERNAL DIMENSIONS MENTIONED ABOVE.  |  |  |
| 18    | FIRE RESISTANT PARTITION WALL FOR GENERATOR AREA AND TOILER AREA.  |  |  |
| 19    | EXHAUST FOR GENERATOR, DRY TOILET AND KITCHEN CHIMNEY.PREFERABLE AT ONE PLACE.   |  |  |
| 20    | AIR COOLED SILENT GENERATOR OF APPROXIMATELY 25 KVA POWER RATING.  |  |  |
| 21    | FUEL TANK OF CAPACITY OF 500 LITRE   |  |  |
| 22    | THREE SIDE DOORS IN GENERATOR AREA, ALL ARE OPENABLE OUTSIDE WITH DESIGN AND CONSTRUCTION OF DOORS AS PER ISO STANDARD CONTAINER DOORS.  |  |  |
|       | BOTH MODULES SHOULD OF SAME DIMENSIONS   |  |  |
| 1.    | <b>General</b>   |  |  |
| 1.1   | Operational environment: The modules will be designed and constructed for carriage by marine (on or below deck), road and rail throughout the world. All materials used in the construction will be to withstand extremes of temperature range from -40°(-40°) to +70°(+158°) without effect on the strength of the basic structure and water tightness. |  |  |
| 1.2   | <b>Handling:</b> The module will be constructed to be capable of being handled without any permanent deformation under the following conditions:   |  |  |
| 1.2.1 | Lifting, full or empty, at top vertically by means of spreaders fitted with hooks, shackles or twist locks.  |  |  |
| 1.2.2 | Lifting, full or empty, at bottom fittings using slings with terminal fittings at any angles between vertical and 45 degrees to the horizontal   |  |  |
| 1.3   | <b>Transportation:</b> The module will be constructed to be suitable for transportation in the following modes:  |  |  |
| 1.3.1 | Marine: In the ship cell guides of vessels, seven (7) high stacked. On the deck of vessels, four (4) high stacked and secured by vertical and diagonal wire lashings.  |  |  |
| 1.3.2 | Road: On flat bed or skeletal chassis, secured by twist locks or equivalent at the bottom fittings   |  |  |
| 1.3.3 | Rail: On flat cars or special container cars secured by twist locks or equivalent at the bottom fittings   |  |  |
| 2.    | <b>Materials.</b>  |  |  |
| 2.1   | <b>General:</b> The following materials will be used in the construction of module:  |  |  |
| 2.2   | <b>Part specification:</b>   |  |  |
|       | Parts Materials by JIS   |  |  |
| 2.2.1 | All steel except screws, rivets, Anti-corrosive steel. SPA-H bolts/nuts, door hardwares or equivalent and other shown on drawings Y.P. : 35 kg/mm <sup>2</sup> and specification T.S. : 49 kg/mm <sup>2</sup>  |  |  |
| 2.2.2 | Rear corner posts (inner) Rolled high tensile steel. SM50A   |  |  |
|       | Y.P. : 33 kg/mm <sup>2</sup>   |  |  |
|       | T.S. : 50 kg/mm <sup>2</sup>   |  |  |
| 2.2.3 | Door hinges S25C   |  |  |
|       | Y.P. : 27 kg/mm <sup>2</sup>   |  |  |
|       | T.S. : 45 kg/mm <sup>2</sup>   |  |  |



|        |   |  |  |
|--------|---|--|--|
| 2.2.4  | Door locking bars Structural steel round pipe. STK41  |  |  |
|        | Y.P. : 24 kg/mm <sup>2</sup>  |  |  |
|        | T.S. : 41 kg/mm <sup>2</sup>  |  |  |
| 2.2.5  | Corner fittings Casted weldable steel. SCW49  |  |  |
|        | Y.P. : 28 kg/mm <sup>2</sup>  |  |  |
|        | T.S. : 49 kg/mm <sup>2</sup>  |  |  |
| 2.2.6  | Locking gear cams and keepers S20C  |  |  |
|        | Y.P. : 25 kg/mm <sup>2</sup>  |  |  |
|        | T.S. : 41 kg/mm <sup>2</sup>  |  |  |
| 2.2.7  | Door hinge pins Stainless steel. SUS304 Gasket retainers  |  |  |
| 2.2.8  | Door gasket EPDM  |  |  |
| 2.2.9  | Floor board 19-ply Hardwood plywood   |  |  |
| 2.2.10 | Ventilator ABS resin labyrinth type<br>* Note: Y.P. - Yielding Point<br>T.S. - Tensile Strength   |  |  |
| 3.     | Construction  |  |  |
| 3.1    | General   |  |  |
| 3.1.1  | The modules will be constructed with steel frames, fully vertical-corrugated steel sides and front wall, horizontal-corrugated steel double doors at rear end, die-stamped steel roof, wooden flooring, corrugated double hinged doors and ISO corner fittings at eight appropriate place   |  |  |
| 3.1.2  | All exterior welding including the base frames will be continuous welding using CO <sub>2</sub> gas to give perfect watertight properties.  |  |  |
| 3.1.3  | Interior welds - when needed - will be stitched with a minimum bead length of 25 mm   |  |  |
| 3.1.4  | Gaps between adjacent components to be welded will not exceed 3 mm or the thickness of the parts being welded   |  |  |
| 3.1.5  | Chloroprene sealant is to be applied at periphery of floor surface and inside unwelded seams, butyl sealant is used to caulk at invisible seam of floor joint area and between door gasket and frame.   |  |  |
| 3.1.6  | The internal bend radii of pressed sections of steel will be not less than 1.5 time the thickness of the materials being pressed  |  |  |
| 3.1.7  | The wooden floor will be fixed to the base frames by zinc plated self-tapping screws.   |  |  |
| 3.2    | Base frame structure: Base frame will be composed of two bottom side rails, eighteen cross members, and a forklift pockets  |  |  |
| 3.2.1  | Bottom side rail: Each bottom side rail is built of a 50x158x30x4.5 mm thick cold formed channel section steel made in one piece. The floor guide rails of 3.0 mm thick pressed angle section steel are provided to the bottom side rails by staggered stitch welding. The lower flange of the bottom side rail is outward so as to facilitate easy removal of the cross members during repair and of less susceptible corrosion. Reinforcement plates to be made of 4.5 mm thick "L" type steel is welded to the bottom surface of both side rails around the bottom corner fitting. |  |  |

|       |  |  |  |
|-------|--|--|--|
| 3.2.2 | Cross member: The cross members are made of pressed channel section steel with a dimension of 45x122x45x4.0 mm for the normal areas and 75x122x45x4.0 mm for the floor butt joints. The large one is reinforced by three 4.0 mm thick gussets. The cross members are placed fully to withstand floor strength and welded to each bottom side rail.   |  |  |
| 3.2.3 | Floor: The wooden floor to be constructed with 28 mm thick 19-ply hardwood plywood boards are laid longitudinally on the transverse members between the 4.0 mm thick flat bar floor center rail and the 3.0 mm thick pressed angle section steel floor guide rails stitched welded to the bottom side rails. The floor boards are tightly secured to each transverse member by self-tapping screws, and all butt joint areas and peripheries of the floor boards are caulked with sealant.<br>1) Wood species: Apitong or Keruing.<br>2) Glue: Phenol-formaldehyde resin.<br>3) Treatment:<br>a) Preservative: Meganium or Equivalent. In accordance with Australian Health Department Regulations.<br>b) Average moisture content will be 14% before installation |  |  |
| 3.2.4 | Self-tapping screw: Each floor board is fixed to the transverse members by zinc plated self-tapping screws that are 8.0 mm dia. shank x 16 mm dia. head x 45 mm length, and fastened by five screws per cross member but six screws at joint areas. Screw heads are to be countersunk with about 2 mm below the floor top surface.   |  |  |
| 3.3   | <b>Door</b>  |  |  |
| 3.3.1 | Each doors will be capable of swinging approximately 270 degrees.  |  |  |
| 3.3.2 | Each door is constructed with two 3.0 mm thick pressed channel section steel horizontal frames for the top and bottom, rectangular hollow section vertical frames for the post side and center side of door respectively, 2.0 mm thick horizontally corrugated steel door panel, which are continuously welded within frames   |  |  |
| 3.3.3 | Two sets of galvanized "BE2566MN" bolt on model locking assemblies with forged steel handles are fitted to each door using zinc plated steel bolts and Huck bolts  |  |  |
| 3.3.4 | Each door is suspended by four hinges being provided with stainless steel pins, self-lubricating nylon bushings and the brass washers  |  |  |
| 3.3.5 | The door gasket to be made of an extruded J&C-type EPDM rubber is installed to the door peripheral frames with stainless steel gasket retainers which must be caulked with butyl sealant before installation of gasket, and fastened by stainless steel rivets at a pitch of 150 mm  |  |  |
| 3.4   | <b>Roof structure:</b> The roof will be constructed with corrugated (die-stamped) steel panels and corner protection plates.   |  |  |

|       |  |                                       |                |
|-------|--|---------------------------------------|----------------|
| 3.4.1 | Roof panel: The roof panel is constructed with 2.0 mm thick die-stamped steel sheets having about 5.0 mm upward smooth camber, which are welded together to form one panel and continuously welded to the top side rails and top end rails. All overlapped joints of inside unwelded seams are caulked with chloroprene sealant  |                                       |                |
| 3.4.2 | Protection plate: Each corner of the roof in the vicinity of top corner fitting is reinforced by 4.0 mm thick rectangular steel plate to prevent the damage caused by the mishandling of lifting equipment   |                                       |                |
| 3.5   | <b>Top side rail:</b> Each top side rail is made of 60x60x3.0 mm thick square hollow section steel.  |                                       |                |
| 3.6   | <b>Wall:</b> The trapezium section wall is constructed with 2.0 mm thick fully vertically continuous-corrugated steel outer panels near the each post and 1.6 mm thick intermediate inner panels, which are butt welded together to form one panel and continuously welded to the side rails and corner posts. All overlapped joints of inside are caulked with chloroprene sealant            |                                       |                |
| 4     | <b>Surface preservation</b>  |                                       |                |
| 4.1.1 | <b>Surface preparation</b><br>All steel surfaces - prior to forming or after - will be fully abrasive shot blasted conforming to Swedish Standard SA 2 1/2 to remove all rust, dirt, mill scale and all other foreign materials. The shot blasted surface profile shall be have a maximum peak to valley height not exceeding 50 microns and average peak to valley height of about 25 microns |                                       |                |
| 4.1.2 | All door/windows/walkway hardwires will be hot-dipping zinc galvanized with approximately 75 microns thickness   |                                       |                |
| 4.1.3 | All fasteners such as self-tapping screws and bolts, nuts, hinges, cam keepers and lashing fittings will be electro-galvanized with approximately 13 microns thickness   |                                       |                |
| 4.2   | <b>Coating</b>   |                                       |                |
| 4.2.1 | Prior to assembly: All steel surfaces will be coated with 10 microns thick two-pack polyamide cured zinc rich epoxy primer immediately after shot blasting, and then dried up in drying room.  |                                       |                |
| 4.2.2 | After assembly: All weldments will be shot blasted to remove all welding fluxes, splatters, burnt primer coatings caused by welding heat, and other foreign materials. Then all blasted weldments will be coated with zinc rich epoxy primer   |                                       |                |
| 4.2.3 | The total dry film will be (microns):<br>All surface of the assembled modules will be have coating system as follows:  |                                       |                |
|       | <i>Where</i>   | <i>Paint name</i>                     | <i>DFT (u)</i> |
|       | Exterior surface   | Epoxy zinc rich primer                | 30             |
|       | Epoxy primer   | Chlorinated rubber or Acrylic topcoat | 40             |
|       | Color:   |                                       | 40             |
|       |  | <b>Total:</b>                         | 110            |

|       |  |                        |            |  |  |
|-------|--|------------------------|------------|--|--|
|       | Interior surface   | Epoxy zinc rich primer | 20         |  |  |
|       | Epoxy high build coating   |                        | 40         |  |  |
|       |  | <b>Total:</b>          | 60         |  |  |
|       | Under structure  | Epoxy zinc rich primer | <b>20</b>  |  |  |
|       | Bitumen  |                        | <b>190</b> |  |  |
|       |  | <b>Total:</b>          | <b>210</b> |  |  |
| 5.    | <b>Marking</b>   |                        |            |  |  |
| 5.1   | <b>Materials</b>   |                        |            |  |  |
| 5.1.1 | Decal: - Painted on body with seven (7) years guarantee without tenting or color fading.   |                        |            |  |  |
| 5.1.2 | Certification plate: 18-18 type Stainless steel plates to be chemically etched by acid   |                        |            |  |  |
| 5.2   | <b>Specifications</b>  |                        |            |  |  |
| 5.2.1 | Identification plates such as consolidated data plate consisting of CSC will be riveted on the door permanently by stainless steel rivets. The entire periphery except underside will be caulked with sealant  |                        |            |  |  |
| 5.2.2 | The owner's serial numbers and manufacturer's serial numbers will be stamped on top face of the bottom rear corner fitting.  |                        |            |  |  |
| 6.    | <b>Guarantee</b>   |                        |            |  |  |
| 6.1   | <b>Structure</b> All the modules shall be guaranteed by manufacturer to be free from defects in materials, workmanship (e.g., welding, painting, protrusion etc.) and structure for a period of two (2) year from the date of acceptance of the modules by the buyer.  |                        |            |  |  |
| 6.2   | <b>Painting</b>  |                        |            |  |  |
| 6.2.1 | The paint system coated on the modules surface shall be guaranteed to be free from corrosion and failure for a period of three (3) years from the date of acceptance of the module by the buyer.   |                        |            |  |  |
| 6.2.2 | Corrosion is defined as rusting which exceeds RE3 (European Scale of degree of Rusting) on at least ten (10) percent of the total module surface, excluding that resulting from impact or abrasion damage, contact with solvents or corrosive chemicals and abnormal use   |                        |            |  |  |
| 6.2.3 | If the corrosion exceeds RE3 as defined above within the guarantee period, inspection of the corrosion shall be carried out by the buyer, and paint manufacturer to detect the cause. As the result of the inspection, if it is mutually agreed and accepted that the corrosion has been caused by the defective paint quality and/or poor workmanship, and/or paint manufacturer shall correct the defect on their accounts |                        |            |  |  |
| 6.3   | <b>Decals:</b> Decals applied on the module shall be guaranteed for a period of seven (7) years without peeling off, tenting or color fading if decals are supplied by manufacturer  |                        |            |  |  |

ANNEXURE - II

**TERMS AND CONDITIONS FOR SUBMISSION OF QUOTATION**

1) The National Centre for Antarctic and Ocean Research (NCAOR) invites sealed quotations in two-parts from the reputed firms for the **“SUPPLY OF LIVING MODULE AND UTILITY MODULE”** as per the specifications given in Annexure-I.

2) The technical and financial bids should be submitted in two separate sealed covers, superscribing “Part –I Technical Bid for **“SUPPLY OF LIVING MODULE AND UTILITY MODULE,”**, Tender No., due date and “Part-II Financial bid for **“SUPPLY OF LIVING MODULE AND**

**UTILITY MODULE,**”, Tender No., due date. Both the bids should be kept in a single cover by super scribing tender for **“SUPPLY OF LIVING MODULE AND UTILITY MODULE,**”, sealed and addressed to the **Director, National Centre for Antarctic & Ocean Research, Headland-Sada, Vasco-da-Gama, Goa – 403 804.** Offer sent through fax will not be accepted.

3) Overwriting and corrections should be attested properly. The bid should be complete in all respects and should be duly signed. **Incomplete and unsigned bids will not be considered at all.**

4) All relevant technical literature pertain to items quoted **with full specifications** (Drawing, if any), information about the products quoted, including brochures if any should accompany the quotation.

5) A list of **reputed clients** to whom the firm has supplied similar items to be furnished along-with the quotation.

In the TECHNICAL BID, the Bidder should furnish the Name and address of the Purchasers placed orders on similar equipment with order No, date, Description and quantity, Date of Supply alongwith Contact person Telephone No, Fax No, and e mail address of Purchaser.

The Bidder should enclose copies of Purchase Orders only in the FINANCIAL BID.

6) If the bidder is registered under SSI, NSIC claiming any exemptions should submit valid certificates along with the quotes, failing which quotation will not be considered.

7) Quotation should be **valid for a period of 90 days** from the date of tender opening and the period of delivery required should also be clearly indicated. If the supplier fails to deliver the goods within the time to be agreed upon, for delayed deliveries and for delays in installation (wherever applicable) NCAOR reserves the right to **levy liquidated damages** at the rate of 0.5% per week or part their of up to maximum of 5%.

8) The **warranty period** and the kind of **post-warranty support** should be indicated. Warranty shall commence from the date of installation and acceptance of the complete equipment supplied under the Purchase Order / Contract.

9) **Technical bid should contain EMD.**

**A) Foreign Bidders** shall submit **EMD** along with their tender **in the form of a bank guarantee** for a sum of US\$ 1700.00 (US \$ One Thousand Seven Hundred only) from any

reputed bank (scheduled bank in India or foreign bank having operational Branch in India) initially valid for 180 days from the date of closing of the tender as per the proforma enclosed. This bank Guarantee in original shall be submitted along with the technical bid only.

B) **Indian Bidders** shall submit **EMD** along with their tender, **either By DD** drawn in favor of NCAOR, on any nationalized bank for a sum of Rs. 1,00,000/- (Rupees One Lakh only) payable at Vasco-da-Gama only **or in the form of a bank guarantee** for a sum of Rs. 1,00,000/- (Rupees One Lakh only) from any reputed bank (scheduled bank) initially valid for 180 days from the date of closing of the tender as per the proforma enclosed. This bank Guarantee in original shall be submitted along with the technical bid only.

**Tender without EMD in the envelope containing technical bid shall be summarily rejected.** The EMD of unsuccessful bidders shall be returned within 30 days of the award of contract.

The earnest money will be liable to be forfeited, if the tenderer withdraws or amends, impairs or derogates from the tender if any respect within the period of validity of his tender.

10) Please **specify the Make/Brand** and Name of the Manufacturer with address, country of origin and currency in which rates are quoted.

11)The Purchaser requires that the bidders suppliers and contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined:

“Corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution:

“fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of contract;

“collusive practice” means a scheme or arrangement between two or more bidders, with or without the knowledge of purchaser, designed to establish bid prices at artificial, noncompetitive levels; and

“coercive practice: means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the

execution of contract;

The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the contract in question; The Decision of Director, NCAOR shall be final and binding.

12) Bidders that doesn't manufacture the goods it offers to supply shall submit Manufacturer's Authorization form on the letterhead of the Manufacturer duly signed and stamped by a person with the proper authority to sign documents that are binding on the Manufacturer as per the following format should be submitted failing which the quotation will not be considered.

To  
The Director  
NCAOR  
GOA

Sub: Manufacturers' Authorization form against Tender No: \_\_\_\_\_

We \_\_\_\_\_(Name of the Manufacturer) who are official manufacturers of \_\_\_\_\_(Type of goods manufactured) having factories at \_\_\_\_\_(full address of Manufacturer's factories) do hereby authorize \_\_\_\_\_( Name of the Bidder) to submit a bid against your Tender No. \_\_\_\_\_for the \_\_\_\_\_Goods manufactured by us and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee and warranty with respect to the Goods offered by the above firm

Manufacturer's Name:  
Signature of Authorized  
representative of the Manufacturer:

Duly authorized to sign this Authorization on behalf of : \_\_\_\_\_(Name of the Bidder)

Date:

In case the bidder not doing business within India, shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India equipped and able to carry out the



supply, maintenance, repair obligations etc., during the warranty and post warranty period or ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc., during the warranty and post- warranty period.

**13) The order acknowledgement** should be from the principals and if the Indian Agent is empowered to quote and to furnish order acknowledgement, a copy of agreement entered by you with the Indian Agent to be furnished.

14) **Compliance Statement:** Equipments point-by-point comparison/compliance statement with **technical specification** indicated in the tender, should be enclosed along with your tender as well as any other extra features of the equipment be shown separately therein and also **compliance statement for all commercial terms** of the tender document.

15) NCAOR is not entitled to issue form “**C/D**”. No Sales Tax or any other Tax shall be payable by us unless payment of the same is specifically mentioned by the suppliers in their bids and same is legally leviable.

16) To avail duty concessions i.e. **Excise Duty** as per Govt. notification 10/97 & **Custom Duty** as per Govt. notification 51/96, NCAOR will provide exemption certificates. Hence, the rates should be split into basic cost and Excise Duty if any.

17) **Technical Bid should contain** all details and specifications of the equipment offered, delivery schedule, warranty, payment term, installation, commissioning, training, post-warranty, user-list, service support **WITHOUT PRICE** and **Financial bid should contain** details of the price(s) of the item(s) quoted in the technical bid. The Technical bid should not contain any references to the pricing.

**In case the technical bid contains any direct or indirect reference to quoted price the bid is liable to be rejected.**

The Prices shall be quoted in Indian Rupees for offers received for supply within India and in freely convertible foreign currency in case of offers received for supply from foreign countries.

For Goods manufactured in India:

F.O.R GOA price should be indicated. However tender should contain item-wise prices including total ex-works price, Excise Duty, VAT/Taxes, Charges for Inland Transportation, Insurance and other local services required for the delivering the goods on F.O.R GOA.

18) **FOB and CIF prices upto Cape Town** should be indicated. However tender should contain item-wise prices including total ex-works price, overall weight & dimensions of the equipment and cost of packing forwarding, approx. cost of freight charges for delivery up to Cape Town, South Africa.

19) A Committee constituted by the Director, NCAOR for the purpose reserves the right to open the bids. Only technical bids will be opened on the date and time mentioned in the tender document. The financial bids of those tenderers whose technical bids are found to be meeting our specifications only will be opened in their presence at date and time to be notified later.

20) A technical Committee constituted by the Director will assess the product supplied/installed for their quality and their conformity to the specifications provided by the firm in their quotations. Any item(s) identified by the Committee to be not as per the specifications are found to be of inferior quality will be rejected, and the bills towards the supply will not be processed for payment till proper replacements are provided.

21) **No advance payment** will be made. Payment shall be made by **irrevocable letter of credit** after supply and acceptance of the equipment by NCAOR. The payment will be authorized after submission of a Bank Guarantee for 10% value of the order towards warranty guarantee. The **performance Bank Guarantee** should be furnished within 15 days from the date of placement of order from a reputed bank (scheduled bank in India **or** foreign bank operating in India) valid till 60 days after the warranty period.

22) Two sets of operational, service/troubleshooting manuals and diagrams to be supplied with **“SUPPLY OF LIVING MODULE AND UTILITY MODULE”**.

23) **The submission of tender** shall be deemed to be an admission on the part of the tenderer, had fully acquainted with the specifications, drawings etc. and no claim other than what stated in the tender shall be paid in the event of award of Purchase Order.

24) **Acceptance of this tender** form and submission of the quote within the stipulated time would be treated as:

a) The tenderer has understood all requirements as described in our Tender document.

b) Acceptance to provide/establish all the facilities mentioned in our tender without any price escalation, if the tenderer finds it necessary to add any hardware or software or any other materials during implementation.

c) Agreeing to execute order to the satisfaction of NCAOR or its authorized representatives within the stipulated time.

25) NCAOR will not be liable for any obligation until such time NCAOR has communicated to the successful bidder of its decision to release the Purchase Order.

26) **NCAOR will not be responsible for any postal delays.**

27) Bidders shall note that NCAOR will not entertain any correspondence or queries on the status of the offers received against this Tender Invitation.

28) Tenders from Manufacturers/Suppliers/Tenderers whose performance was not satisfactory in respect of quality of supplies and delivery schedules in any organizations, are liable for rejection. The tenders that do not comply with the above criteria and other terms & conditions are liable for rejection.

29) The Director, NCAOR does not bind to accept the lowest quotation and reserves the right to himself, to reject or partly accept any or all the quotations received without assigning any reason.

30) All disputes arising in connection with executing the purchase order will be subject to the Jurisdiction of the Courts in Goa only.

**COMMERCIAL COMPLIANCE STATEMENT FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE**

| <b>Sr. No.</b> | <b>COMMERCIAL SPECIFICATION FOR SUPPLY OF LIVING MODULE AND UTILITY MODULE</b>  | <b>COMPLIED/ NOT COMPLIED</b> | <b>EXTRA FEATURES</b> |
|----------------|---|-------------------------------|-----------------------|
| <b>1</b>       | A list of <b>reputed clients</b> to whom the firm has supplied similar items to be furnished along-with the quotation.  |                               |                       |
| <b>2</b>       | In the TECHNICAL BID, the Bidder should furnish the Name and address of the Purchasers placed orders on similar equipment with order No, date, Description and quantity, Date of Supply alongwith Contact person Telephone No, Fax No, and e mail address of Purchaser. |                               |                       |
| <b>3</b>       | The Bidder should enclose copies of Purchase Orders only in the FINANCIAL BID.  |                               |                       |
| <b>4</b>       | Quotation should be <b>valid for a period of 90 days</b> from the date of tender opening and the period of delivery required should also be clearly indicated.  |                               |                       |

|    |   |  |  |
|----|---|--|--|
| 5  | The <b>warranty period</b> and the kind of <b>post-warranty support</b> should be indicated. Warranty shall commence from the date of installation and acceptance of the complete equipment supplied under the Purchase Order / Contract.   |  |  |
| 6  | <b>Foreign Bidders</b> shall submit <b>EMD</b> along with their tender <b>in the form of a bank guarantee</b> for a sum of US\$ 1700.00 (US \$ One Thousand Seven Hundred only) from any reputed bank (scheduled bank in India or foreign bank having operational Branch in India) initially valid for 180 days from the date of closing of the tender as per the proforma enclosed. This bank Guarantee in original shall be submitted along with the technical bid only.  |  |  |
| 7  | <b>Indian Bidders</b> shall submit <b>EMD</b> along with their tender, <b>either By DD</b> drawn in favor of NCAOR, on any nationalized bank for a sum of Rs. Rs. 1,00,000/- (Rupees One Lakh only) payable at Vasco-da-Gama only <b>or in the form of a bank guarantee</b> for a sum of Rs. 1,00,000/- (Rupees One Lakh only) from any reputed bank (scheduled bank) initially valid for 180 days from the date of closing of the tender as per the proforma enclosed. This bank Guarantee in original shall be submitted along with the technical bid only. |  |  |
| 8  | <b>Tender without EMD in the envelope containing technical bid shall be summarily rejected.</b> The EMD of unsuccessful bidders shall be returned within 30 days of the award of contract.  |  |  |
| 9  | Please <b>specify the Make/Brand</b> and Name of the Manufacturer with address, country of origin and currency in which rates are quoted.   |  |  |
| 10 | <b>The order acknowledgement</b> should be from the principals and if the Indian Agent is empowered to quote and to furnish order acknowledgement, a copy of agreement entered by you with the Indian Agent to be furnished.  |  |  |
| 11 | <b>Compliance Statement:</b> Equipments point-by-point comparison/compliance statement with <b>technical specification</b> indicated in the tender, should be enclosed along with your tender as well as any other extra features of the equipment be shown separately therein and also <b>compliance statement for all commercial terms</b> of the tender document.  |  |  |
| 12 | NCAOR is not entitled to issue form " <b>C/D</b> ". No Sales Tax or any other Tax shall be payable by us unless payment of the same is specifically mentioned by the suppliers in their bids and same is legally leviable.  |  |  |
| 13 | To avail duty concessions i.e. <b>Excise Duty</b> as per Govt. notification 10/97 & <b>Custom Duty</b> as per Govt. notification 51/96, NCAOR will provide exemption certificates. Hence, the rates should be split into basic cost and Excise Duty if any.   |  |  |
| 14 | <b>Technical Bid should contain</b> all details and specifications of the equipment offered, delivery schedule, warranty, payment term, installation, training, post-warranty, user-list, service support <b>WITHOUT PRICE</b> and <b>Financial bid should contain</b> details of the price(s) of the item(s) quoted in the technical bid. The Technical bid should not contain any references to the pricing.  |  |  |

|    |  |  |  |
|----|--|--|--|
| 15 | <b>In case the technical bid contains any direct or indirect reference to quoted price the bid is liable to be rejected.</b>   |  |  |
| 16 | The Prices shall be quoted in Indian Rupees for offers received for supply within India and in freely convertible foreign currency in case of offers received for supply from foreign countries.   |  |  |
| 17 | <b>FOB and CIF prices upto Cape Town</b> should be indicated. However tender should contain item-wise prices including total ex-works price, overall weight & dimensions of the equipment and cost of packing forwarding, approx. cost of freight charges for delivery up to Cape Town, South Africa.  |  |  |
| 18 | A Committee constituted by the Director, NCAOR for the purpose reserves the right to open the bids. Only technical bids will be opened on the date and time mentioned in the tender document. The financial bids of those tenderers whose technical bids are found to be meeting our specifications only will be opened in their presence at date and time to be notified later.   |  |  |
| 19 | A technical Committee constituted by the Director will assess the product supplied/installed for their quality and their conformity to the specifications provided by the firm in their quotations. Any item(s) identified by the Committee to be not as per the specifications or are found to be of inferior quality will be rejected, and the bills towards the supply will not be processed for payment till proper replacements are provided.   |  |  |
| 20 | <b>No advance payment</b> will be made. Payment for indigenous stores shall be made within 30 days from the date of receipt, acceptance and satisfactory installation of equipment and incase of imported stores by <b>irrevocable letter of credit.</b>   |  |  |
| 21 | The <b>performance Bank Guarantee</b> should be furnished within 15 days from the date of placement of order from a reputed bank (scheduled bank in India <b>or</b> foreign bank operating in India) valid till 60 days after the warranty period.   |  |  |
| 22 | Two sets of operational, service/troubleshooting manuals and diagrams to be supplied with <b>“SUPPLY OF LIVING MODULE AND UTILITY MODULE”</b>  |  |  |
| 23 | <b>The submission of tender</b> shall be deemed to be an admission on the part of the tenderer, had fully acquainted with the specifications, drawings etc. and no claim other than what stated in the tender shall be paid in the event of award of Purchase Order.   |  |  |
| 24 | <b>Acceptance of this tender</b> form and submission of the quote within the stipulated time would be treated as: <ul style="list-style-type: none"> <li>• The tenderer has understood all requirements as described in our Tender document.</li> <li>• Acceptance to provide/establish all the facilities mentioned in our tender without any price escalation, if the tenderer finds it necessary to add any hardware or software or any other materials during implementation.</li> <li>• Agreeing to execute order to the satisfaction of NCAOR or its authorized representatives within the stipulated time.</li> </ul> |  |  |

**QUESTIONNAIRE**

- a. **Name of the Manufacturer / Tenderer**
- b. **Full postal address with Telephone, Telefax, Email**
- c. **Please specify whether Public Limited, Company, Private Organization or Partnership Firm**
- d. **Nature of the Business**
- e. **Date of Establishment**
- f. **Present Turnover**
- g. **Permanent Income Tax Ref. No.**
- h. **C.S.T. / S.T. NO.**
- i. **Address & Telephone Nos. Of your branch office in GOA (please specify whether Distributing/Servicing/Marketing the products)**
- j. **Technical Compliance statement.**
- k. **Commercial Compliance statement.**
- l. **Reference of reputed Customers**
- m. **Details of the highest order executed and value thereof**
- n. **Authorization from Manufacturer/Supplier attached**
- o. **Tender fee submitted/enclosed.**
- p. **E.M.D. attached with BID.**
- q. **Infrastructure facilities required for installation & commissioning attached**
- r. **Technical Specifications/Literature/Brochure attached**
- s. **Tender Acceptance**

**TENDER ACCEPTANCE UNDERTAKING**

To

The Director,  
NCAOR, Headland Sada,  
Vasco – Goa.

Having examined the tender document **for “SUPPLY OF LIVING MODULE AND UTILITY MODULE**, we the undersigned hereby offer to supply the equipment in conformity with all specifications and conditions set out in the tender document.

We enclosed all the relevant documents as per the tender.

We understand that you are not bound to accept the lowest or any tender received.

**Date :**

**(Signature of Bidder)**

**Name :**

**Designation :**

Seal

**BANK GUARANTEE FORMAT FOR FURNISHING EMD****To****NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH  
Headland Sada, Vasco-da-Gama, GOA 403 804, INDIA**

Whereas \_\_\_\_\_  
 (Hereinafter called the "tenderer"  
 has submitted their offer dated \_\_\_\_\_  
 for the supply of \_\_\_\_\_  
 (Herein after called the "tender"

WE \_\_\_\_\_ of having our registered office  
 At \_\_\_\_\_ are bound unto the NATIONAL  
 (Hereinafter called the Bank)

CENTRE FOR ANTARCTIC & OCEAN RESEARCH, Ministry of Earth Sciences, Govt. Of India having its office at Headland Sada, Vasco Goa 403 804, India (herein after called NCAOR which expression shall unless repugnant to the context or meaning thereof include all its successors, administrators, executors and assigns) in the sum of \_\_\_\_\_ for which payment will and truly to be made to. NCAOR, the Bank binds itself, its successors and assigns by these presents. Sealed with the common seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 2015.

THE CONDITIONS OF THIS OBLIGATION ARE:

- 1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2) If the tenderer having been notified of the acceptance of his tender by NCAOR during the period of its validity.
  - 2.a) If the tenderer fails to furnish the Performance security for the due performance of the contract.
  - 2.b) Fails or refuses to execute the contract

We undertake to pay NCAOR up to the above amount upon receipt of its first written demand, without NCAOR having to substantiate its demand, provided that in its demand the NCAOR will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 2015.

**Signature of the bank**



**NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH**  
 (Ministry of Earth Sciences, Govt. Of India)  
 Headland Sada, Vasco-da-Gama GOA 403 804, INDIA  
 Tel: 91- (0) 832 2525571 Telefax: 91- (0) 832 2525573  
 Email: [warlu62@ncaor.gov.in](mailto:warlu62@ncaor.gov.in) Website: [www.ncaor.gov.in](http://www.ncaor.gov.in)

**PUBLIC TENDER**

Director, National Centre for Antarctic & Ocean Research (NCAOR) invites sealed tenders in two-parts (part I – Technical bid & part II Financial bid) super scribing Tender No. Item and due date from well established/ reputed manufacturers / authorized and bonafide vendors for supply of the following:-

| Sl. No | Tender No.            | Item Description   | Qty.   | Cost of Tender Doc. |       | EMD         |         |
|--------|-----------------------|--|--------|---------------------|-------|-------------|---------|
|        |                       |  |        | Rs.                 | US\$  | Rs.         | US\$    |
| 1      | NCAOR/AES-11297/PT-07 | SUPPLY OF LIVING MODULE AND UTILITY MODULE   | 4 SETS | 2,000.00            | 50.00 | 1,00,000.00 | 1700.00 |
| 2      | NCAOR/AES-11301/PT-08 | SUPPLY OF HALF BIN (6 M HALF HEIGHT CONTAINER)                                       | 8 NOS  | 2,000.00            | 50.00 | 1,00,000.00 | 1700.00 |
| 3      | NCAOR/AES-11298/PT-09 | PROCUREMENT OF INVENTORY TRACKING & MANAGEMENT TOOL FOR ANTARCTIC EXPEDITION, NCAOR  | 08 Nos | 500.00              | —     | 15,000.00   | —       |
| 4      | NCAOR/AES-11304/PT-10 | FABRICATION & SUPPLY OF GENERAL PURPOSE CARGO CONTAINER 20' X 8' X 8'6" ISO 1CC TYPE | 04 Nos | 1000.00             | —     | 35,000.00   | —       |

Last date for issue of tender documents : **27.07.2015**

Last date for submission of quotation : **28.07.2015**

The details of tender documents are also available in our website <http://www.ncaor.gov.in> and Central Public Procurement Portal <http://eprocure.gov.in>. Interested suppliers may download the details and submit the quotation on or before the due date along with tender fee.

**The quotation without tender fee will not be considered.**

Tender forms can be obtained from the Procurement section of NCAOR on all working days either by post or in person between 1000 – 1600 hours on payment of tender fees in the form of crossed Demand Draft payable at Vasco-da-gama only, from a Nationalized bank drawn in favor of NCAOR along with separate requisition indicating tender number and item. Tender forms can be obtained by speed post by remitting Rs. 50/- by Indian bidders and US\$ 15.00 by Foreign bidders in addition to the cost of tender documents.

The Director, NCAOR is not responsible for any transitional/postal delays.

The quotations will be **opened on 29.07.2015** in the presence of tenderers or their authorized representatives.

The Director, NCAOR reserves the right to accept or reject any quotation in full or part thereof without assigning any reason.

**Sd/-  
For & on behalf of NCAOR**