

**MINISTRY OF HEALTH & FAMILY WELFARE
(GOVT. OF INDIA)**

ALL INDIA INSTITUTE OF AYURVEDA (AIIA), NEW DELHI

Tender

for

**Supply, Installation, Testing & Commissioning of Kitchen
Equipments at All India Institute of Ayurveda (AIIA), Sarita Vihar,
New Delhi**

VOLUME – III

TECHNICAL SPECIFICATION

November 2013



(Consultants & Engineers for Mega Hospitals & Laboratories)
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Tender No. HSCC/SES/AIIA/Kitchen/2013

TECHNICAL SPECIFICATION OF KITCHEN

Scope of Work Supply Installation, Testing and Commissioning of Kitchen equipment and Turnkey work for the Kitchen including free spare parts and service during 2 years defect liability period

RECEIVING AREA

1	<p>SS Platform Rack. The entire rack is made of 18 on tiny tubular legs with adjustable bullet feet. Also fitted with cross bearing channel beneath to hold the Sacks.</p>	1		1300 x 600 x 250
2	<p>SS Big Bowl Sink Unit. Top of 16 sg. SS sheet on S.S. Angle frame work on S.S squarelegs with adjustable bullet feet for uneven floors. Also fitted with a large sink on RHS. Also fitted with a back splash and under shelf. The top is fitted with stud welded bolts with the frame for sturdy and stronger grip. The bowl size 1200x500x250</p>	1		1500 x 650 x 850 + 150 spl.
3	<p>Weighing Scale.(Electronic) I.S.I. marked. The supplier has to provide the permit from Weights & Measures dept.</p>	1	300 Kg.	

COLD ROOM & DRY STORE

4	<p>Dunnage Rack (Sintax/Neelkamal)</p>	4		1200 x 600
5	<p>SS Platform Rack Same as sl.no.1</p>	4		1200 x 800 x 250
6	<p>Onion / Potato Bin The entire bin is made of 18 swg. S.S. Sheet on heavy duty castor wheels. Also fitted with top opening lids and doors beneath to extract onion / potato.</p>	1		1000 x 600 x 1000
7	<p>4 Door Vertical Refrigerator. Double walled puff insulated all SS sheet body on tiny tubular legs with adjustable bullet feet. Fitted with Emerson/ Tecumsah make condensing unit on top with auto temperature controller and indicating lamps and SS detachable hinges to keep the detachable wire meshed trays for storage with lockable SS doors. Also Fitted with a detachable drip tray beneath.</p>	1	1000 Liters	1200 x 650 x 2100

8	<p>SS Storage Rack with SS Uprights All five shelves are made of 18 swg. SS sheet on 4 nos round / square legs with adjustable bullet feet. All the shelves are having "C" channel through to accommodate maximum load bearing ability.</p>	11		1200 x 450 x 1800
9	<p>SS Storage Rack with SS Uprights Same as sl.no.10</p>	1		1350 x 450 x 1800
10	<p>Platform Trolley. The entire trolley is made of 18 swg. S.S. Sheet on heavy duty castor wheels. Fitted with a push cart type handle and cushion guard in front to prevent any damage during operation.</p>	3		800 x 500 x 900
11	<p>COLD ROOM Temperature -0 to 4 degree centigrade Insulation: Panels 60mm thick PU at 40-42kg density,PCGI exposed exterior 0.5mm thick sheet,PCGI exposed exterior 0.5mm thick sheet, PCGI interior 0.5mm thick sheet, floor interior and exterior of 0.5mm thick PCGI exposed sheet, Ceiling exterior PCGI, interior PCGI Sheet 0.5mm.Vertical,Panels Joint with Cam lock coupling in Tongue & Groove arrangement. Thickness of PUF Panels (for Wall, Ceiling & Floor)- 60mm.Wall & Ceiling panels Finish- Internal: SS 304 External: PCGI Galvanized Ironic Sheet. Flooring- Kota stone by client. Density of Panels-40kg/cub.m No. of Doors- One for Main Room Type. of Doors- Over Lapped or Flash Type Door Size-900mm x 1950mm. Accessories Included in the scope of Supply-1. Door Alarm 2. Lock Defeat mechanism 3. Light Inside the cold room. 4. Handle, Hinges & Locks. 5. Microprocessor based digital control. Panels. 6. Panel Accessories & necessary Hardware. Technical Feature of PUF Panels, Doors, & Accessories: Individual Panel is manufactured with closed cell Rigid Polyurethane foam, injected at high pressure, which secures the bond with facing material to form a single piece construction. RPUF insulation is CFC free and has Zero ODP- Ozone Depleting potential. Core density of 40kg / Cu.M Panel finish is designed to resist many chemicals including most common cleaning agents. The panels have fire rating to BS.467 part 7, clause 1. Wall, floor & ceiling panels joined with Tongue and groove mechanism with cam lock system. The compressor and condenser unit of Emerson/ Techumshah/Kirloskar make with Automatic temperature controller and temp. Indicator.</p>	1		2800 x 2500 x 2400

VEG. PREPARATION AREA

12	SS Single Bowl Sink unit R.H.S Top of 16 sg. SS sheet on S.S. Angle frame work on S.S square legs with adjustable bullet feet for uneven floors. Also fitted with a large sink on RHS. Also fitted with a back splash and under shelf. The top is fitted with stud welded bolts with the frame for sturdy and stronger grip. The bowl size 500x500x250	1		1460 x 650 x 850 + 150 spl.
13	SS Wall Shelf The entire shelf is made of 18 swg. S.S. Sheet and fastened on wall with S.S. fasteners.	1		1460 x 300
14	SS Work Table with 1 No U/S. Top of 16 sg. SS sheet on S.S. Angle frame work on S.S squarelegs with adjustable bullet feet for uneven floors.. Also fitted with a back splash and under shelf. The top is fitted with stud welded bolts with the frame for sturdy and stronger grip	1		810 x 650 x 850 + 150 spl.
15	SS Wall Shelf Same as sl. No. 14	1		810 x 300
16	Chopping Block S.S-304 sheet body to hold poly carbonate Chopping Boards	2		650x650x850
17	SS Wall Shelf Same as sl. No.14	1		1500 x 300
18	SS Wall Shelf Same as sl. No. 14	1		1350 x 300
19	Veg Cutter Machine Continuous flow cutting machine is made of aluminum casting on tiny tubular legs with adjustable bullet feet. Fitted with gravity hopper and 4 SS blades for slicing chopping and dicing and a heavy duty motor Options are there for blades for julienne, French fries etc.	1	100 Kg/hr	
20	SS Work Table with 1 No U/S. Same as sl.no.17	1		1200 x 650 x 850 + 150 spl.
21	SS Wall Shelf Same as sl. No.14	1		1200 x 300
22	SS Work Table with 1 No U/S. Same as sl. No. 17	1		1400 x 650 x 850 + 150 spl.
23	SS Wall Shelf Same as sl. No.14	1		1400 x 300

STAFF CANTEEN

24	SS Work Table with 1 No U/S. Same as sl. No.17	1		1450 x 650 x 850 + 150 spl.
25	Microwave Oven IFB/Equivalent	2	15 L	
26	SS Wall Shelf Same as sl. No.14	1		1450 x 300
27	SS Single Bowl Sink unit (R.H.S) Same as sl. No.15	1		1500 x 650 x 850 + 150 spl.
28	SS Wall Shelf Same as sl. No.14	1		1500 x 300
29	4 Door Vertical refrigerator. Same as sl. No. 8	1	1000 Liters	1200 x 650 x 2100
30	Citrus Juicer. The juicer to have on line separator for citrus fruits.	1		
31	Blender The heavy duty hand held S.S. blender to have the capacity of blending & whipping of more than three litters at one time.	1		
32	SS Wall Shelf Same as sl. No.14	1		1750 x 300
33	SS Work Table with 1 No U/S. Same as sl. No.17	1		1700 x 650 x 850 + 150 spl.
34	SS Wall Shelf Same as sl. No.14	1		1700 x 300
35	Sandwich Griller. The heavy duty grilling plates are fitted on S.S. tops on tiny legs. Fitted with 3.0 KW heating element with each unit with individual auto temp. controller and indicating lamps. Also fitted with insulated handles on each grillers to extract the contents.	1	Double	
36	Tea/Coffee Dispenser Double walled mineral wool insulated all SS sheet body on tiny tubular legs. The inner tank is splitted in two parts-one for 25 liters water & another for 5 lits. milk with heavy duty individual gun metal faucet and water level indicator. Fitted with 3.0 kw immersion type heating element with auto temp. controller and indicating lamps. Also fitted with a detachable drip tray	1	150 cups/hr	
37	Dosa Plate Top of 1 mm thick M.S plate on S.S Angle frame work on S.S. Square legs with adjustable bullet feet. Fitted with heavy duty R.V burner with pilot lamp and individual control valves. Also fitted with splash on three sides and a water through in front and a detachable grease collection drip tray and a bottom shelf.	1		1000 x 600 x 850
38	Chopping Block Same as sl. No.19	1		650 x 650 x 850
39	Dough Kneader The heavy duty SS rotating drum is fitted with heavy duty MS stand & base, duty rust proof	1	25 Kg.	

	<p>painted. Also fitted with heavy duty SS arm to mix the dough and duly connected to heavy duty motor.</p>			
40	<p>Chapati Plate Cum Puffer on right Top of 12 mm thick M.S plate on S.S Angle frame work on S.S. square legs with adjustable bullet feet. Fitted with heavy duty R.V. Burner with pilot lamp with individual control valves. Also fitted with a puffer on right hand side and a bottom shelf.</p>	1		1200 x 600 x 850
41	<p>SS. Exhaust Hood with SS Filters Island type Same as sl. No. 57</p>	1		1350 x 750 x 500
42	<p>Chapati Collection Trolley Sunken top of 18 swg S. S. sheet body on square legs on castor wheels. Also provided with a bottom shelf.</p>	2		750x600x850
43	<p>SS Chapati Rolling Table with Granite Top & U/s on Castors. Marble top rolling table is fitted on S.S. angle on S.S. square legs with adjustable bullet feet. Also fitted with a bottom shelf.</p>	1		1200 x 600 x 850
44	<p>Idli Steamer Doubled walled mineral wool insulated all SS sheet body on tiny tubular legs with adjustable bullet feet. Fitted with two nos immersion type heating element of 3.0 KW each with individual auto temperature controller and indicating lamps and SS hinges inside to keep detachable idli trays. Also fitted with water inlet, outlet valves and water level indicator. A front opening insulated door is fitted at the service side.</p>	1	120 Idlis	
45	<p>Tilting Boiling Pans Double walled mineral wool insulated all SS sheet body is fitted with heavy duty SS tubular legs. Fitted with high pressure burner and pilot lamp with individual control valves, tilting gear to extract the boiled/cooked food, water inlet valve and gun metal faucet and SS perforated detachable bottom shelf. A top opening spring loaded lid with insulated handle is also fitted.</p>	2	100 Liters	
46	<p>Tilting Frying /Brazing Pans Same as above</p>	1	100 Liters	

47	SS. Exhaust Hood with SS Filters (Wall type) The entire hood is made of 18 swg. S.S. Sheet with S.S. baffle filter and being hung on wall with wall fasteners.	1		4720 x 1150 x 500
48	Single Burner Gas Range.(High Pressure) Top of 16 swg. SS Sheet on S.S Angle frame work on S. S. Square legs with adjustable bullet feet for uneven floors. Fitted with United/Sarna make heavy duty burner with pilot lamps with individual control valves and heavy duty cast iron pan support.	1		750 x 750 x 650
49	SS Side Work Table with 1 No. U/s. Same as sl. No. 17	1		750 x 750 x 650 + 50 Spl.
50	4 Burner Gas Range with Oven Below Top of 16 swg. SS Sheet on M.S Angle frame work on SS Square legs with adjustable bullet feet for uneven floors. Fitted with United/Sarna make heavy duty burner with pilot lamps with individual control valves and heavy duty cast iron pan support. Also fitted with an electrically operated oven beneath.	1		950 x 950 x 850 + 150 Spl.
51	SS. Exhaust Hood with SS Filters (I-Land type) Same as sl. No 62 A	1		4720 x 2000 x 500
52	BISI Cooler Glass cover at the front door Make-Blue Star/Cellsrost/Euronova/Allanpro	1	600 Ltrs	
53	SS Bain Marie Counter with Sneeze Guard. Miner wool insulated top of all SS sheet body on tubular legs with adjustable bullet feet. The tank is spitted in two parts-one part to keep hot food with 3 nos GN pans & other one to have ambient/cold food with 2 GN pans of 1/2x150mm fitted with 2nos immersion type heating element of 2.0 kw each with auto temp. Controller & indicating lamps. Also fitted with water inlet, outlet & overflow valves. The entire unit is covered in three sides and fitted with a tray slide in front and an under shelf beneath.	2		1500 x 650 x 850 + 450
54	Garbage Bin Moulded Plastic container with 2 Nos-Big castor wheel. Garbage cart should be set to keep vertically upright on its base complete with accessories as per specification.	6		

WET AREA

55	Wet Masala Grinder (Tilting Type) The heavy duty SS rotating drum on SS covering on MS angle frame work duly rust proof painted, is fitted with heavy duty motor with a crushing stone duly fitted in drum with SS tubular leg. Also fitted with a rotating gear to extract the contents after	2	10 Liters.	
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	grinding.			
56	<p>Onion / Potato Peeler (Imported) The heavy duty peeling drum is made of 18 swg. SS sheet on three nos tiny legs with adjustable bullet feet and a rotating disc of SS sheet being connected with heavy duty motor of 2 HP single/three phase. Also pasted with emery granules inside the drum and on rotating disc to peel and fitted with water inlet valve and aluminum casting/SS sheet our pour to extract peeled potatoes.</p>	1	10 Kg.	
57	<p>Pulverizer The continuous flow pulverizer is made of SS gravity hopper on SS covering on MS angle frame work duly rust proof painted on adjustable bullet feet. Also fitted with a heavy duty motor with S.S. outpour and 5 blades of different sizes. The heavy duty machine can grind both dry and wet.</p>	1	8 to 10 Kg.	

MAIN COOKING AREA

58	<p>Tilting Boiling Pans Double walled mineral wool insulated all SS sheet body is fitted with heavy duty SS tubular legs. Fitted with high pressure burner and pilot lamp with individual control valves, tilting gear to extract the boiled/cooked food, water inlet valve and gun metal faucet and SS perforated detachable bottom shelf. A top opening spring loaded lid with insulated handle is also fitted.</p>	2	100 Liters	
59	<p>Tilting Frying /Brazing Pans Same as above</p>	1	100 Liters	
60	<p>SS. Exhaust Hood with SS Filters (Wall type) The entire hood is made of 18 swg. S.S. Sheet with S.S. baffle filter and being hung on wall with wall fasteners.</p>	1		4720 x 1150 x 500
61	<p>Single Burner Gas Range.(High Pressure) Top of 16 swg. SS Sheet on S.S Angle frame work on S. S. Square legs with adjustable bullet feet for uneven floors. Fitted with United/Sarna make heavy duty burner with pilot lamps with individual control valves and heavy duty cast iron pan support.</p>	4		750 x 750 x 650
62	<p>SS. Exhaust Hood with SS Filters (Wall type) Same as sl. No. 57</p>	1		1600 x 950 x 500
63	<p>SS Side Work Table with 1 No. U/s. Same as sl. No. 17</p>	1		750 x 750 x 650 + 50 Spl.
64	<p>SS. Exhaust Hood with SS Filters (Wall type) Same as sl. No.57</p>	1		2400 x 950 x 500
65	<p>Chapati Plate Cum Puffer on right Top of 12 mm thick M.S plate on S.S Angle frame work on S.S. square legs with adjustable bullet</p>	2		1200 x 600 x 850

	feet. Fitted with heavy duty R.V. Burner with pilot lamp with individual control valves. Also fitted with a puffer on right hand side and a bottom shelf.			
66	SS. Exhaust Hood with SS Filters Island type Same as sl. No. 57	1		2400 x 750 x 500
67	SS Side Work Table with 1 No. U/s. Same as sl. No. 17	2		825 x 950 x 850 +50 spl
68	Chapati Collection Trolley Sunken top of 18 swg S. S. sheet body on square legs on castor wheels. Also provided with a bottom shelf.	2		750x600x850
69	SS Chapati Roling Table with Granite Top & U/s on Castors. Marble top rolling table is fitted on S.S. angle on S.S. square legs with adjustable bullet feet. Also fitted with a bottom shelf.	1		1200 x 600 x 850
70	Dough Kneader The heavy duty SS rotating drum is fitted with heavy duty MS stand & base, duty rust proof painted. Also fitted with heavy duty SS arm to mix the dough and duly connected to heavy duty motor.	2	25 Kg.	
71	SS Single Bowl Sink unit (R.H.S) Same as sl.no.	1		1150 x 650 x 850 + 150 spl.
72	SS Work Table with Drain Board Same as sl. No.17	1		1350 x 650 x 850 + 150 spl.
73	Milk Boiler. Triple walled mineral wool insulated all S.S. Sheet body is fitted on tiny legs. Fitted with water inlet valve with the third Wall and an immersion type hearing element with auto temp. controller and indicating lamp to heat milk. The second wall is insulated with mineral wool.Also fitted with water level indicator to maintain steady supply of water. Also fitted with a top opening lid with insulated handle.	1	80Liters	
74	Water Boiler. Double walled mineral wool insulated all S Sheet body on SS legs with adjustable bullet feet. Fitted with 3.0 kw immersion type heating element with auto temperature controller and indicating lamps. Also fitted with a top opening lid with insulated handle and two insulated handles on either side to carry	1	80 Liters	
75	SS Side Work Table with 1 No. U/s. Same as sl. No.17	1		450 x 950 x 850 + 50 spl
76	4 Burner Gas Range with Oven Below Top of 16 swg. SS Sheet on M.S Angle frame work on SS Square legs with adjustable bullet	1		950 x 950 x 850 + 150 Spl.

	feet for uneven floors. Fitted with United/Sarna make heavy duty burner with pilot lamps with individual control valves and heavy duty cast iron pan support. Also fitted with an electrically operated oven beneath.			
77	SS. Exhaust Hood with SS Filters (I-Land type) Same as sl. No 62 A	1		4720 x 2000 x 500
78	Masala Trolley The entire trolley is made on SS sheet body to keep inserts for preparation on tubular legs on 4 nos castor wheels-2 with breaks and 2 normal. Also fitted with a bottom shelf/cross brazings.	1		800 x 500 x 900
79	SS Center Work Table with U/s on Castors. Same as sl. No. 17	1		1200 x 600 x 850
80	Garbage Bin Moulded Plastic container with 2 Nos-Big castor wheel. Garbage cart should be set to keep vertically upright on its base complete with accessories as per specification.	6		

SERVICE AREA

81	SS Tray Cutlery Trolley The entire is made of S.S. hinges on S.S. square uprights on castor wheels.	1		
82	Granite Counter			
83	SS Water Cooler Double walled puff insulated all S.S. Sheet body on S.S. adjustable bullet feet. Fitted with Emerson / Tecunsa make condensing unit with auto temp. controller and indicating lamps. Also fitted with water inlet valve, over flow protector valve and gun metal faucets and S.S. drip tray.	2	40 Liters	

DISH WASH AREA

84	SS Dirty Dish Landing Table with Garbage Chute (L.HS). Top of 16 swg. S.S. Sheet on S.S. angle frame work on S.S. square pipes with adjustable bullet feet. Fitted with a garbage chute on left hand side and a cross brazing beneath.	1		1550 x 650 x 850 + 150 Spl.
85	SS Two Bowl Sink Unit Top of 16 sg. SS sheet on S.S. Angle frame work on S.S square legs with adjustable bullet feet for uneven floors. Also fitted with two sinks on RHS. Also fitted with a back splash and cross brazing. The top is fitted with stud welded bolts with the frame for sturdy and stronger grip. The bowl size 500x500x250	1		1500 x 650 x 850 + 150 Spl.
86	Hot Water Geyser (Horizontal)	1	100 Litres.	

87	Pre-rinse Jet Spray. The spray unit to be fitted with hot & cold mixer	1		
88	Dish Washer, Single tank rack conveyor with dryer	1	100 Racks/hr.	Supplier should quote of branded companies with all FDA norms.
89	SS. Exhaust Hood with SS Filters (Wall type) Same as sl.no.57	1		2250 x 950 x 500
90	Chain Conveyor 90 deg.(Manual) The heavy duty chain has to connect with the loading table and dish washer.	1		850 x 850 x 910
91	SS Unloading Conveyor Table with Dishwash Rack holder. (manual) The entire table is made of 16 swg. S.S. Sheet on S.S. angle frame work on S.S. Square legs with adjustable bullet feet. Also fitted with S.S. Hinges to hold the dish washing rack beneath.	1		1150 x 650 x 850 + 150 spl.
92	SS Work Table with Dishwash Rack holder. Same as sl. No.94	1		1275 x 650 x 850 + 150 Spl.
93	SS Dish Storage Rack. Same as sl.no.10	3		1350x850x900
94	Cutlery Soaking unit MOC-SS-304	1		625 x 625 x750

POT WASH AREA

95	Hot Water Geyser (Horizontal)	1	100 Litres.	
96	Pre-rinse Jet Spray. Same as sl. No. 90	1		
97	SS Pot Rack All the shelves are SS Square pipes on 4 nos square legs with adjustable bullet feet. All the joints are firmly welded and nicely grinded, polished and puffed to a smoother finish.	2		1300 x 600 x 1500
98	SS Two Sink Pot Wash Top of 16 sg. SS sheet on S.S. Angle frame work on S.S square legs with adjustable bullet feet for uneven floors. Also fitted with two sinks on RHS. Also fitted with a back splash and cross brazing. The top is fitted with stud welded bolts with the frame for sturdy and stronger grip. The bowl size 600x500x250	1		1500x600x850+150
99	Pot Wash Masonic with tile finish all around	1		1500 x 1500

TRAY SET UP AREA

100	SS Tray Cutlery Trolley. Same as sl. No.80	1		375x500x850
101	Plate Dispenser. Same as sl. No. 17	1		800 x 400 x 850
102	Tray Set up (Conveyer Type) Top of 19 swg. S.S. Sheet on S.S. angle frame work on S.S. square pipes with adjustable bullet feet for uneven floors. Fitted with an electrically operated conveyer belt to shift the trays to load.	1		3900 x 600 x 850
103	Hot Bain Marie on Castors. Double walled mineral wool insulated all S.S. Sheet body is fitted with an immersion type heating element of 3.0 KW with auto temp. controller & indicating lamps on heavy duty castor wheels. Also fitted with 4 nos. G.N. pans with lids of ½ x 150.	2		800 x 625 x 850
104	Plate Cover Dispenser. Same as sl. No.17	1		800 x 400 x 850
105	SS Work Table with U/s. Same as sl. No.17	1		1500 x 650 x 850 + 150 spl.
106	SS Rack on Castors Same as sl. No.10	2		1300 x 450 x 1800
107	Food Warmer Trolley Double walled mineral wool insulated all SS sheet body on heavy duty castor wheels with push cart type handle. Fitted with 3.0 kw heating element with auto temp. controller and indicating lamps and SS hinges to keep pre-plated plates with insulated lockable door. Damage resistant rubber cushion is fitted on all the corners to prevent any damage during movement.	6		875 x 688 x 1200
108	Sink MOC-SS-304	1		600x600x850 +150

MISCELLANEOUS

109	Insecto Killer (Ceiling Mounted)	6		
110	Air Curtain (Depend on Door Size)	4		
111	Garbage Trolley	3		
112	Extra Dishwash Racks			

A	Dishwash Rack - Plate	4		
B	Dishwash Rack - Glasses / Cups	4		
C	Dishwash Rack - Tray	4		
D	Dishwash Rack - Cutlery	4		
113	Extra Gastronorm Pans			
A	1/1 GN Pan, 200mm deep with lid.	4		
B	1/2 GN Pan, 200 mm deep with lid.	6		
C	1/2 GN Pan, 150 mm deep with lid.	3		
D	1/3 GN Pan, 200 mm deep lid.	3		
114	Hand wash sink with Faucet	1		
115	Nani Trape Drainage	7		To floor gully
116	LPG Bank with gas manifold system and Iron Grilled Cage/PNG (One set working another set standby) LPG Cylinder Bank of 14.2 Kg each LPG cylinder with :Class‘C’ seamless steel pipe conforming to IS:1239 (Latest version) with Pressure Gauges (0-15 PSIG & 0-5PSIG, dial type) complete with accessories as required as per specification mentioned*	1 lot		10+10 Cylinders in case LPG

***LPG Bank**

10 + 10 (One set working another set standby) LPG Cylinder Bank of 14.2 Kg each LPG cylinder with :

- Class‘C’ seamless steel pipe conforming to IS:1239 (Latest version) with Pressure Gauges (0-15 PSIG & 0-5PSIG, dial type),
- Pressure reducing stations complete with Flanges & accessories and Isolation valves having ball valves of approved makes with LPG installation certificate having carbon steel body, SS ball and PTFE seat, Laboratory tap and all other fittings such as tees, reducers, unions, elbows.
- Steel Grilled cage of area 32 ft x 4ft.with lockable door for keeping 10 + 10 Cylinder Bank.
- The piping shall be joined through welding by using welding electrodes of ISI marked only.
- The LPG piping works shall be duly supported with ceiling, on walls etc. by providing adequate supports. In no case the spacing between two supports shall exceed 1.5 meter. Adequate measures shall be taken to prevent pipe from undue stresses, sagging etc.
- The piping shall be free internally and externally of cutting burrs, loose scales, dirt, dust and other foreign matters before installation is completed.

- All care shall be taken to prevent rusting of piping during installation by providing red oxide primer coating.
- Suitable sleeve of GI/wood shall be provided wherever the pipes are crossing through the walls/slabs etc.
- The LPG shall be providing keeping a minimum distance of 100 mm from the electrical wiring system.
- On completion of installation, the LPG manifold shall be complete with all accessories and individual components/parts which are subjected to cylinder pressure shall be capable of withstanding a test pressure twice the working pressure or 26 Kg/sq.cm whichever is higher. Pressure testing of complete LPG system and obtain the pressure test certificate from appropriate regulatory authority.
- All the fittings used for installation of LPG line system shall conform to relevant BIS codes.
- The complete LPG pipeline system shall be installed in accordance with IS:6044 (Latest version), Gas cylinder rules 1981 with latest amendments, OISD July 1995 (latest amendments).
- All the accessories, components used for installation of LPG pipeline system shall have the approval from Oil Company.
- Isolation/shut off valves shall be ball valves with installation certificate for use in LPG pipelines and shall have carbon steel body, Stainless steel ball and PTFE seat.
- After completion of installation, the entire pipeline system shall be given at least two coats paint as per LPG colour norms.
- The work of supply, installation, testing and commissioning of LPG manifold and supply system shall be carried out only by specialized agency shall have certification for carrying out similar jobs from Oil Companies like IOCL/BP/HP.
- The entire work of supply, installation, testing and commissioning of LPG manifold and supply system shall be carried out in accordance with directives of Oil Industry safety directorate and of Bureau of Indian Standards and using materials having necessary approvals for use in LPG installations.
- The contractor shall submit detailed shop drawings of LPG manifold, piping layout and piping installation details for approval. The items covered under the scope of works shall include all those ancillary items which may be required to complete the work in all respect whether specifically mentioned or not.
- Fire fighting arrangements for LPG Bank should be as per the guidelines of statutory body/local authority/State Government/NDMC/Central Government.

117. IN ADDITION TO THE ABOVE, FOLLOWING TURNKEY WORKS FOR INSTALLATION AND COMMISSIONING OF KITCHEN AT ALL INDIA INSTITUTE OF AYURVEDA, SARITA VIHAR, DELHI ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR :

- Electric distribution panel (EDP) for the above Kitchen equipment complete with all switchgears, wiring and controls etc complete as per specifications and drawings. (Switch gears of L&T/ Siemens/ ABB/GE or Schneider make)
- Electrical cabling of IS: 1554 standard and wiring as per IS : 732 standard and of adequate capacity to bear total electrical load required for Kitchen works from nearby MDB/Substation in the hospital to the Electric Distributional Panel(EDP) of Kitchen room and from the EDP to the corresponding load points.
- Providing fixing of Electrical Gadgets like ELCB, MCB, Light Points, Power points, Fans, Cool air Fans, Exhaust fan etc in the Kitchen room. Number of fans, power point, bulbs/tube light. Apart from these supplies to the individual equipments with ELCB & MCB in the Kitchen room. Installation of MCB, ACB, ELCB & OCB of Havell/Siemens/L&T/Schneider etc for Control Panel for Kitchen.
- Laying of GI water pipe line with necessary taps, joints, elbows, Unions and valves of GI made and IS-1239 standard (Latest version) and of adequate sizes to feed total water requirement of the Kitchen from the available source point in the hospital to the overhead tank and from the overhead tank to the installed machines'/users' ends at Kitchen Room.
- Installation and commissioning of Water Softener for softening of available ground/supply water continuously at the hardness necessary for washing and other application required for Kitchen is at least “< 50 ppm” or as per suitability of the Steam Generators/equipment. The Water Softening System shall be installed in the capacity compatible to the requirement of Kitchen equipments and system running for the assigned duration at fully loaded condition. The specimen of ground/supply water is available at the site of installation at AIIA, NewDelhi for design and selection of Water Softening System.
- Construction/laying of Draining/Sewer system from all the equipments/Sinks to the main drain line with grating, proper trap and flow system and tapping.
- Necessary Ducting of GI sheet with grills at the suitable places for Air washing for fresh air at the working place inside the Kitchen. Exhaustion of hot air and Ventilation for creating comfortable working zone within the Kitchen.
Air Circulation- Total Exhaust CFM Req = 13349; Total Fresh Air CFM Req =93443
- Arrangement for requisite **Fire Fighting** for the entire effective zones in the Kitchen Room and the sitting place.
- Additional work pertaining to Civil, Electrical, Office, Store & Kitchen Furniture, Plumbing, Overhead Water Tank, Sanitary, Servo stabilizers/U.P.S etc. and any other protections relevant as per State/Central Govt. regulation/local authority/NDMC, required for successful installation testing and commissioning of the system and the offered price should include all such costs, each Schedule is to be considered a package in itself and contractor to execute the order in package on a “turnkey basis”.

In addition to the above mentioned equipment/appliances, if the contractor thinks it necessary to include any other equipment/appliances, accessories etc. for the Kitchen then that may be provided after approval from Engineer in-charge.

The sizes are approximate. Minor variations in sizes shall be acceptable subject to prior approval of the Engineer.

APPROVED MAKES FOR KITCHEN COMPONENTS

1.	Air Blower	SWAM/ EVEREST/ KAY/Beta
2.	Blower/Pump/ Motor	KIRLOSKAR/ NGEF/ SIEMENS/CROMPTON/ABB
3.	Compressor	EMERSON/ TECHUMSHAH/COPELAND/DANFOSS
4.	Cable	SKYTONE/KEI/UNIVERSAL/NATIONAL/RR CABLE
5.	Aeration System	NORTON/ UEM/ V.K.ENVIROTECH/MM AQUA
6.	Butter Fly Valve	AUDCO/ KEYSTONE/ KSB/CRI/Castle
7.	Control Panel	L & T/ SIEMENS/ SCHNEIDER
8.	Valve	LEADER/ ZOLOTO /CRI/CASTLE
9.	PVC Pipe Class III with Fitting	FINOLEX/ SUPREME/ PRINCE/ ORI-PLAST
10.	G.I. / M.S. Pipe Heavy Class	TATA/ JINDAL/SAIL /SURYA PRAKASH/HSL/ITC
11.	MCCB/Contactor/Relay	L&T/ABB/SIEMENS/SCHNEIDER
12.	Pressure Gauges	H.GURU /FIEBIG
13.	Stainless steel	TATA/SALEM/JINDAL/MUKUND/ BHAYANDER/ AMBICA
14.	GI Sheets	TATA/SAIL/JINDAL/BHUSHAN STEEL
15.	Aluminium Sheet	BALCO/NALCO/HINDALCO
16.	Grilles/Diffusers	RAVISTAR/CARYAIRE/ MAPRO/DYNACRAFT

Note :

- **The bidder should attach Technical Compliance item wise with respect to the above technical specifications and turnkey work along with Printed catalogues**
- **The contractor shall be responsible for the complete works including submission of working drawing and walk through view.**
- **The contractor should provide complete List of Commonly used Spares, Operation manual, Equipment manual, Service manual and manuals for all systems and subsystems.**
- **Final electrical and pressure and other safety test, system test and calibration should be**

done by authorized person with test instruments.

- **The contractor should provide all electrical accessories like cable wire, electrical outlets, switches etc, and they should be fire proof of reputed make, certified for electrical safety.**
- **Wherever makes have not been specified for certain items, the contractor should provide the same as per BIS and as per approval of HSCC.**
- **Training of personnel of the Institute should be 30 days at least by the contractor.**
- **The contractor should prepare and submit layout plan for Steam Pipeline, Electrical Wiring, Electrical Distributional Panel, Plumbing, Fire Fighting System, Air Washing and Ventilation and Drain line to HSCC for approval before beginning of supply and installation and As built drawing after installation.**
- **The contractor should provide test certificate for all materials along with manufacturer's test certificate and equipments used for Kitchen.**