

ANNEXURE - C TO TENDER BAP/CAP/2014-15/OT08

TECHNICAL SPECIFICATION FOR VRF AC IN MODULAR OFFICE

BILL OF QUANTITIES				
S.No	DESCRIPTION	UNIT	NOs	VENDOR TO SPECIFY
	<u>OUTDOOR UNIT:</u>			
1 (a)	Variable Refrigerant Flow outdoor unit shall consist of Compressor (combination of constant speed + variable speed or all variable speed, Scroll/DC twin rotary) capable of changing the capacity in accordance to the cooling load requirement. The outdoor unit shall have suitable microprocessor controller, air cooled Condenser fan motor along with environment friendly refrigerant R 410A gas charging. The total Output capacity of outdoor unit shall be minimum 48 HP. The Outdoor unit shall have multiple compressors of minimum 02 nos of various capacities (minimum of 10HP & maximum of 24HP) as per OEM standards.	Nos	3	
1 (b)	Outdoor unit make and model			
	<u>INDOOR UNIT :</u>			
2 (a)	VRF Indoor units shall be of minimum 8 TR rating, Ceiling suspended, ductable type, Hi CFM with cooling coil, electronic expansion valve, filter, multispeed fan motor & wired remote controller. (six indoor units for one out door unit). The indoor units are to be installed in the spiral ducting system which will be supplied and erected by another vendor.	Nos	18	
2 (b)	Indoor unit make and model			
3	<u>REFRIGERANT:</u>			
	Refrigerant should be of R410a including full charging of refrigerant gas	Set	1	
4	<u>HARD DRAWN COPPER PIPING:</u>			
	Supply and laying of 18 gauge hard drawn refrigerant copper pipes to connect outdoor unit with indoor units. All the copper pipes shall be insulated with closed cell nitrile rubber. The approximate distance between outdoor and indoor units in first floor is around 06 meters and for ground floor is 12 meters.	Set	3	

	<u>CENTRAL MONITORING SYSTEM:</u>			
5	Provision of Central monitoring system for operation and monitoring of all indoor and outdoor units like ON/OFF status, room temperature etc from a remote location through existing LAN of BHEL. The vendor has to provide necessary interfacing protocol for enabling the remote operation as per OEM software.	Set	1	
	<u>CABLING:</u>			
6	All control/communication cables between IDUs and ODUs shall be in the scope of supplier. All power cables for the IDUs and ODUs shall be in the scope of BHEL.	Lot	1	
	<u>GUARANTEE PERIOD:</u>			
7	Guarantee period should be for a period of 24 months from the date of commissioning.			
	<u>DOCUMENTATION (To be furnished along with supply):</u>			
8	Three sets of Operating & Maintenance Manuals (Hard copies) in English language should be supplied along with the VRF unit.	Sets	3	
	<u>ERECTION & COMMISSIONING:</u>			
9	Installation, testing and Commissioning of above items as per the instructions of BHEL Engineer and trial operation of the VRF system for one week.	Lot	1	
9 (a)	Indoor units are to be mounted/fixed in the in the appropriate location as instructed by Engineer-in-charge.			
9 (b)	Outdoor Units will be installed at the terrace of the building as instructed by Engineer-in-charge and structural foundation works will be done by BHEL.			
9 ©	Wall opening for drain water pipes, refrigerant pipes entry and cable entry shall be done by supplier and shall be closed and finished with white cement after installation work is completed.	Lot	1	
9 (d)	The indoor units and outdoor units shall be factory assembled, tested and filled with first charge of refrigerant before delivering at site. Final acceptance will be given after the equipment is installed and tested at site to give satisfactory performance.			
	<u>TIME PERIOD FOR ERECTION & COMMISSIONING:</u>			
10	The erection and commissioning time period shall be 30 days from the date of handing over of site by BHEL.	Lot	1	