

FTTD-106-1
Rev No. 5

Form No.



PROJECT ENGINEERING & SYSTEM DIVISION
BHEL, HYDERABAD -32.

GT 58076

Rev No. 00

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TECHNICAL SPECIFICATION
FOR
2 TON SPLIT AIR CONDITIONERS (HIGH WALL MOUNTED)

CUSTOMER : **INDIAN OIL CORPORATION LIMITED, NEW DELHI**


PROJECT : **MSQ UPGRADATION BARAUNI REFINERY PROJECT**

CONSULTANT : **M/s TOYO ENGINEERING INDIA LTD**

A/c Ref.	Revisions :	Prepared by:	Checked by:	Approved By:	Date
	00	Kamaluddin	K Gunjan	Sudhir Babu	21.12.12

TD-106-2 Rev No. 5 Form No.	 HYDERABAD	PROJECT ENGINEERING & SYSTEM DIVISION BHEL, HYDERABAD -32.		GT 58068																					
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1. INTENT OF SPECIFICATION:																									
1.1. This specification comprises the details of supply, Installation , Testing and commissioning of Non Ducted Split Air conditioner (High wall mounted) for control room areas elaborated elsewhere in this speciation.																									
2. PROJECT DESCRIPTION																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Sl. No.</th> <th colspan="2">Project Details</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>End Customer</td> <td>M/s Indian Oil corporation ltd.- Barauni</td> </tr> <tr> <td>2.</td> <td>Project Consultant</td> <td>M/s Toyo Engineering , Mumbai</td> </tr> <tr> <td>3.</td> <td>Project Location</td> <td>Barauni , Bihar- India</td> </tr> </tbody> </table>					Sl. No.	Project Details		1.	End Customer	M/s Indian Oil corporation ltd.- Barauni	2.	Project Consultant	M/s Toyo Engineering , Mumbai	3.	Project Location	Barauni , Bihar- India									
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3. BIDDER'S SCOPE OF SUPPLY AND ERECTION COMMISSIONING																									
3.1. The Air Conditioning system of this project shall consists of the following items which are included in bidder's scope of supply and erection- commissioning:																									
3.1.1. SUPPLY OF SPLIT AIR CONDITIONER																									
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NOTES:																									
1. The location of indoor and outdoor units of split ACs shall be finalized during execution stage																									
2. Bidder to however note that the requirements of all the variable items like associated refrigerant piping, cable wiring etc. on the basis of finalized location of the split ACs along with stabilizer & remotes shall be included in bidder's scope without any additional commercial implication to the purchaser.																									
3. Bidder to note that the power sockets for the Split ACs and flexible connection from the power socket to the Split AC unit shall be included in bidder's scope.																									
4. Interconnecting cabling between indoor and outdoor units of split AC is by bidder only																									
Ref. Doc																									

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<p style="writing-mode: vertical-rl; transform: rotate(180deg);"> COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company. </p> <p>3.1.2. ERECTION AND COMMISSIONING</p> <ol style="list-style-type: none"> The outdoor units are to be installed with anti-vibration pads/ cushioning pads on suitable MS powder coated stands(brackets) The indoor units are to be installed with suitable brackets and fasteners / tie rods as per manufacturer standards Laying refrigerant grade copper piping inter connecting indoor to outdoor units , insulated foam/ rubber as per standard manufacturer recommendation. Laying and terminating of inter connecting cables from indoor to the outdoor and concealed. The cable shall be of suitable capacity as per manufacturer standard/ recommendation for split AC. Laying of condensate drain line of suitable diameter rigid PVC pipe with clamps & bends, from outdoor unit and taken outside to specified location. Leak testing of entire system. Charging refrigerant gas in the unit and run test. Any additional supports required for the safety of the units needed, any be provided by bidder. <p>3.2. DESCRIPTION OF NON DUCTABLE SPLIT TYPE AIR CONDITIONING UNIT</p> <ol style="list-style-type: none"> The split type room air conditioner consists of two units' one Indoor unit (Evaporator) & an Outdoor unit (Condenser). It will be complete with all components to perform filtering and cooling of air in all seasons except winter. The unit will be suitable for high wall mounting. Split AC Units shall be energy efficient with star rating of minimum 2 and approved by BEE (Bureau of Energy Efficiency). Non-ductable Split air-conditioners will be controlled from the unit mounted Control panel or from the cordless hand operated remote. <p>3.3. CLARITY OF SCOPE IN OTHER AREAS (SCOPE MATRIX):</p> <table border="1" data-bbox="332 1355 1417 1776"> <thead> <tr> <th colspan="4">MECHANICAL</th> </tr> <tr> <th>Item</th> <th>By BHEL</th> <th>By Vendor</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Support structure if any for Refrigerant piping, cabling, MCB, stabilizer for Split AC etc</td> <td>No</td> <td>Yes</td> <td></td> </tr> <tr> <td>Support structure like structural steel, anchor bolts, brackets etc required for cabling, AC units, piping etc</td> <td>No</td> <td>Yes</td> <td></td> </tr> <tr> <td>Making openings in walls for refrigerant pipes/ cables etc., and making them good after installation for the purpose of installing bidder's supplied items</td> <td>No</td> <td>Yes</td> <td></td> </tr> </tbody> </table>					MECHANICAL				Item	By BHEL	By Vendor	Remarks	Support structure if any for Refrigerant piping, cabling, MCB, stabilizer for Split AC etc	No	Yes		Support structure like structural steel, anchor bolts, brackets etc required for cabling, AC units, piping etc	No	Yes		Making openings in walls for refrigerant pipes/ cables etc., and making them good after installation for the purpose of installing bidder's supplied items	No	Yes	
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ELECTRICAL


Sl. No.	Item	By BHEL	By Vendor	Remarks
3.	Supply , laying & termination of suitable rated electrical cables for the Split AC's from existing power source	No	Yes	
6.	Power supply of single phase (230 +/- 10V & 50Hz)	Yes	No	

3.4. LIST OF MAKES

1	SPLIT AIR CONDITIONERS	FEDDERS LLYOD CORPORATION LTD.
		BLUE STAR LTD
		CARRIER AIRCONDITIONING & REFRIGERATION LIMITED
		HITACHI INDIA PVT. LTD.
		VOLTAS LIMITED
		LG ELECTRONICS INDIA LTD.
		SAMSUNG INDIA ELECTRONICS PVT LTD.
VIDEOCON INTERNATIONAL LIMITED		

4. BILL OF QUANTITIES

Sl. No.	Description	Qty.	Unit	PRICE	
				Total Supply Price (Rs.)	Total Price Erection & Commissioning (Rs.)
1	2 TR Non Ducted split AC's as per specification	16 23	Nos.		


 BHEL-EMRP MUMBAI	BHARAT HEAVY ELECTRICAL LIMITED- EMRP- MUMBAI		ANNEXURE-C- EMRP-01	
			Rev. No	00
	PROJECT: IOCL , BARAUNI REFINERY		Date	10.04.2013

Annexure -I

SCHEDULE OF GUARANTEED TECHNICAL PARTICULAR

(Bids are liable to be rejected if the bidder does not furnished/ confirm the technical data in the schedule)

Sr. No.	Description	To be filled by Bidders
	SUPPLY, INSTALLATION, TESTING & COMMISIONING OF 2 TON SPLIT AC	
1	Brand	
2	Model (Split type)	
3	Capacity	
4	Quantity	
5	Star rating for energy efficiency & BEE approved	
6	Control provision via unit mounted control panel or hand operated remote	
7	Support structure if any like, stand, anchor bolt, bracket, etc required for refrigerant piping, cabling, MCB, stabilizer for AC unit.	
8	Making opening in wall for refrigerant pipes / cable etc. and making them good after installation for the purpose of installing bidder's supplied items	
9	Supply, laying & termination of suitable rated electrical cables for suitable rated electrical cables for split AC's from existing power source	
10	Leak testing of entire system. Charging refrigerant gas in the unit and run test.	

 BHEL-EMRP MUMBAI	BHARAT HEAVY ELECTRICAL LIMITED- EMRP- MUMBAI	ANNEXURE-C- EMRP-01	
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Annexure -II

Table 1


LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH BID

Sl.No	Documents	No of copies
1	Annexure - I Details of Equipments (Duly Filled)	1 copies
2	Product Catalogue for offered equipment	1 copies
3	Schedule of Deviation (Annexure - IV)	1 copies

Table 2

**LIST OF DOCUMENTS TO BE SUBMITTED AFTER AWARD OF ORDER FOR BHEL /
END CUSTOMER APPROVAL and ALONG WITH EQUIPMENT**

Sl.No	Documents	No of copies
1	Product catalog with complete specifications, model nos. physical dimensions etc.	1 copy
3	Test Certificates of all acceptance and routine tests as applicable.	1 copy
5	Guarantee certificate valid for 12 months from the date of delivery.	1 copy
6	Instruction manual of individual equipment	2 copy

 BHEL-EMRP MUMBAI	BHARAT HEAVY ELECTRICAL LIMITED- EMRP- MUMBAI	ANNEXURE-C- EMRP-01	
		Rev. No	00
	PROJECT: IOCL , BARAUNI REFINERY	Date	10.04.2013

Annexure – III

Deviation Statement (Technical)

Sr No.	Item	Deviation	Justification for Deviation

Use extra sheet if required.

Note: Bidder has to indicate clearly the deviations if any w.r.t. specification. Bidder has to indicate all the deviations on this annexure – III only, deviations mentioned elsewhere in Bidder's offer will not be considered.