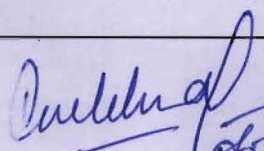
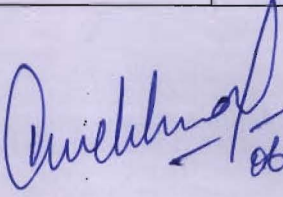
	HVACSYSTEM 4X210 MW KAHALGAON-R&M	SPECIFICATION NO. PE-TS-455- 571-13000A-A001	
		AMMENDMENT-1	
		DATE: 06.08.2020	
		Page 1 of 2	
AMENDMENT#1 TO EXISTING CLAUSES OF TECHNICAL SPECIFICATION			
Sl. No.	Clause	Existing description	To be read as (Amendment)
1.	Section-1, sub section-E, Annexure-1, Page 225 of 277	List of makes	Refer Revised list of makes-Annexure-1
2.	Section-1, sub section-C1, Page 10 of 277	Additional Information	PAC placed in AHU room, however outdoor unit shall be placed in above the AHU Room. Please refer tentative/proposed layout of PAC Room attached as Annexure-A, Bidder is suggested to visit site before quoting inline specification clause no. 1.12 of intent of specification
3.	Section-1, sub section-C1, Page 10 of 277	Additional Information	Refrigerant shall be R-410A/R-407C/R-134A
4.	Sub Section C1 & Section I, Clause : 5, Page 10 of 277	Outdoor units shall comprise of compressor, cooling fan, condenser. Indoor unit comprising of blower, filter, cooling coil shall be mounted in attractive, corrosion resistant enclosures.	Outdoor units shall comprise of cooling fan, condenser. Indoor unit comprising of compressor, blower, filter, cooling coil shall be mounted in attractive, corrosion resistant enclosures.
5.	Sub Section C1 & Section I, Clause : 14, Page 13 of 277	Dismantling of existing AHUs, accessories etc. in existing ESP Control Room shall be bidders scope of work. Dismantle material shall be hand over to owner at identify location.	3 nos. of AHU(5TR) for each ESP control room shall be dismantled. Exiting ducting (from AHU discharge till plenum) inside AHU room along with electrical/ control panel. Cable, piping/valve etc. shall also be dismantled by the bidders
6.	Sub Section C1 & Section I, Clause : 15, Page 13 of 277	a) False ceiling, drop ceiling, foundation for Package AC.	a) False ceiling, drop ceiling, underdeck insulation, foundation for Package AC indoor / outdoor unit and Local Control Panel. Foundation of existing AHU shall be used for PAC Indoor unit, Further any angle , channel frame support required, the same shall be provided by bidder


 06-08-2020

	HVACSYSTEM 4X210 MW KAHALGAON-R&M	SPECIFICATION NO. PE-TS-455- 571-13000A-A001	
		AMMENDMENT-1	
		DATE: 06.08.2020	
		Page 2 of 2	
7.	Sub Section C1 & Section I, Clause : 5, Page 9 of 277	Additional Information	Return air shall be collected in the space above false ceiling
8.	Section-1, sub section-C1, Page 10 of 277	Additional Information	Floor mounted Air cooled PAC shall be applicable. i.e Compressor shall be in indoor unit.
9.	General	New Clause added	Wherever AHU mentioned in the specification, The same shall be read as PAC.
10.	Clause no : 4.05.10, Page 25 of 277	All ducting surfaces coming in contact with corrosive fumes or gases shall be painted with three coats of epoxy paint over a coat of suitable primer.	This clause stand deleted
11.	Section-I, Subsection C1 /Clause 02.01.04 Page 8 of 277	Required power and control cables... This also includes incoming power cable required from incoming source to required power distribution board for the AC and Ventilation Fans. Power distribution board is in the scope of supply of bidder	Power cable from incoming source up to HVAC Distribution board shall be provided by BHEL. All other cables (power and control) shall be supplied by bidder. Electrical scope between BHEL and Vendor shall be governed by 'Electrical Scope matrix' at page 152 of 277, 153 of 277 and 154 of 277 of tender specification.
12.	Sub Section C2 & Section I, Clause : 2.00.00(8), Page 16 of 277	Additional Information	Fire single from fire alarm panel to local control panel of HVAC shall be provide BHEL / customer(NTPC).
 06-08-2020			



**KAHALGAON STPS (R&M) STAGE-1
(4X210)**

HVAC SYSTEM

**SPECIFICATION No.: PE-TS-455-571-
15000A-A001**

SECTION : I

SUB-SECTION : E (ANNEXURE-I)

REV 00

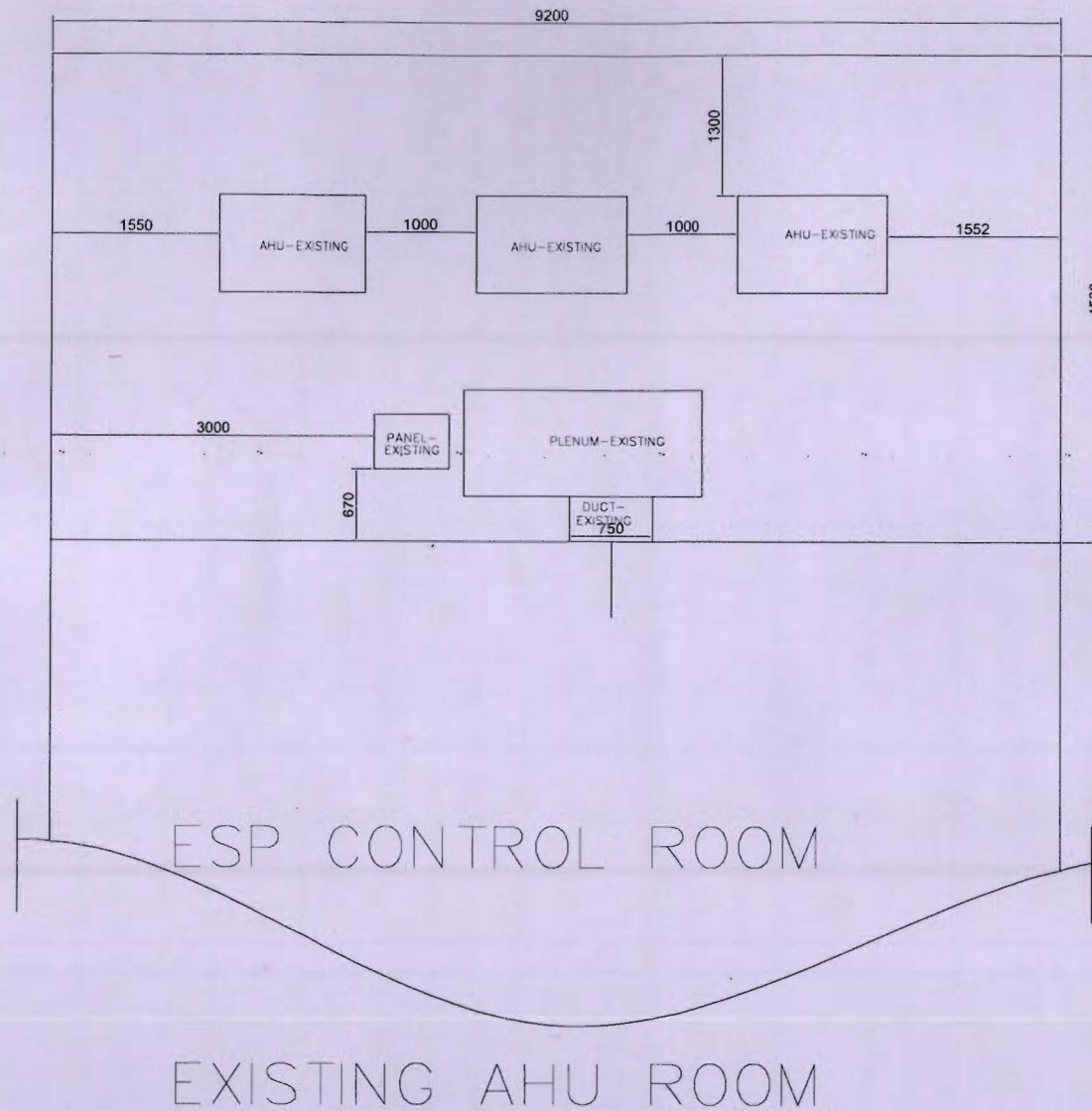
SR. NO.	ITEM	SUB SUPPLIER
1	AXIAL FLOW FANS/RE UNITS	HYDERABAD POLLUTION/ SK SYSTEM / ADVANCE VENTILATION /KRUGER / NICOTRA / MARATHON / FLAKT / CB DOCTOR/ PATEL AIR/SITAL/ ICEBERG(AXIAL FAN)
2	AIR FILTER	PUROLATOR / FMI / ANFILCO / TENACITY / JOHN FOWLER /SPECTRUM /AIR TECH / PUROMATIC
3	GI SHEET FOR DUCTING	TISCO / INDIAN IRON & STEEL CO LTD. / RASHITRYA ISPAT NIGAM LTD. / ESSAR/ ISPAT INDUSTRIES / JSW STEEL / LLOYDS STEEL / BHUSHAN / TATA / SAIL / JINDAL
4	HUMIDIFIER	RAPID COOL/ HOTSET /ALCO
5	HEATER	ESCORTS / RACOLD / DASPASS/ ALCO/ HEATCO / HOTSET
6	GRILL/ DIFFUSER/ VOLUME CONTROL DAMPER	AIR FLOW/ TSC /AIR MASTER/ CARYAIRE/RAVI STAR (SYSTEM AIR)
7	FIRE DAMPER	TSC / CARRYAIRE / RAVISTAR (SYSTEM AIR)
8	INSULTATION MATERIAL	BEARDSHELL / K-FLEX / PARAMONT/ ARMAFLEX / SUPREME / LLOYDS / UP TWIGA
9	THERMOSTATS	HONEYWELL / RANCO / PENN / DANFOSS / INDFOSS / JHONSON CONTROL /RANUTROL
10	HUMID STAT	JHONSON CONTROL / HONEYWELL / PENN
11	PRESSURE SWITCH / DP SWITCHES	BELLS / DANFOSS / DK INSTRUMENTS/ DRESSER / SOR INC / VASU / SWITZER / INDFOSS / TRAFAG / GIC / ASHCROFT/ KASTURBA UDYOG/ BARKSDALE/ PRECISION MASS PRODUCTS/ MITTAL REFRIGERATION
12	FLOW SWITCH	SWITZER / LEVCON /DK INSTRUMENT / SBEM / V. AUTOMATE/ SIEMENS
13	RH SENSOR/TEMP SENSOR	HONEY WELL /JOHNSON /SIEMENS / GENERAL INSTRUMENTS
14	GATE/GLOBE VALVES	CRESENT / BDK / AUDCO / FOURESS / KIRLOSKAR / SANT / BOMBAY METAL & ALLOYS / BANKIM / LEADER / H SARKAR / AV VALVES / VENUS PUMPS AND ENGG

NOTE:

1. THE SUB VENDOR LIST ABOVE IS INDICATIVE ONLY AND IS SUBJECT TO BHEL AND CUSTOMER APPROVAL DURING DETAILED ENGINEERING STAGE WITHOUT ANY COMMERCIAL & DELIVERY IMPLICATION TO BHEL. BIDDER TO PROPOSE SUB VENDOR WITHIN 4 WEEKS OF PLACEMENT OF LOI. THEREAFTER NO REQUEST FOR ADDITIONAL SUB-VENDOR SHALL BE ENTERTAINED.
2. THE INSPECTION CATEGORY WILL BE INTIMATED AFTER AWARD OF CONTRACT BY BHEL/CUSTOMER. HOWEVER THE SAME WILL BE ADHERED BY THE BIDDER WITHOUT ANY COMMERCIAL AND DELIVERY IMPLICATION TO BHEL/ CUSTOMER.
3. PLEASE ALSO REFER RESPECTIVE SUB-SECTION C-3, C-4 FOR ELECTRICAL AND C&I RELATED EQUIPMENT LIST OF MAKE.

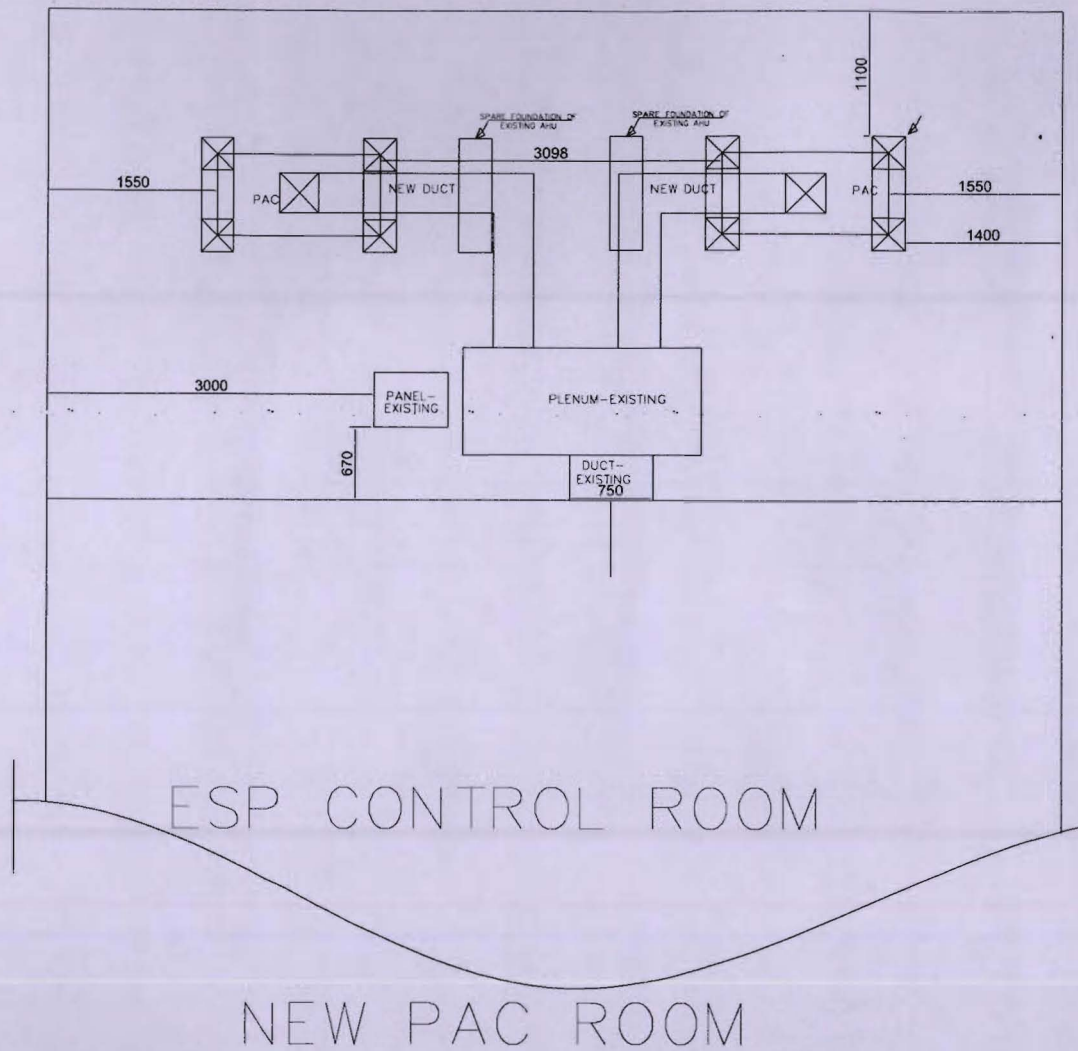
Amekha
06-08-2020

ANNEXURE-A



Amal Kumar
06-08-2020

PROJECT:	4x210MW KAHALGAON MODIFIED ESP - R&M, UNIT-1 TO 4		
CUSTOMER		NTPC LIMITED	
CONTRACTOR		BHARAT HEAVY ELECTRICALS LTD. POWER SECTION PROJECT & MAINTENANCE MANAGEMENT SPECIAL	
DESIGNED BY:	DAHAN	16.07.2020	TITLE : AC EQUIPMENT LAYOUT
CHECKED BY:	VALI	16.07.2020	
APPROVED BY:	SR	16.07.2020	
REVISIONS:			
DATE:	16.07.2020	FILE NO: SHEET 1 OF 1	REV: 01
BY:	AMAL	DRAWING NO: 16.07.2020-16.07.2020	



Check of
06-08-2020

PROJECT:		4x210MW KAHALGAON MODIFIED ESP – R&M, UNIT–1 TO 4	
CUSTOMER			NTPC LIMITED
CONTRACTOR			BHARAT HEAVY ELECTRICALS LTD POWER SECTION PROJECT & ENGINEERING MANAGEMENT KSCA
TITLE :			
AC EQUIPMENT LAYOUT			
DESIGNED BY	DATE	BY	NO. OF SHEETS
CHECKED BY	DATE	BY	NO. OF SHEETS
APPROVED BY	DATE	BY	NO. OF SHEETS
SUPERSEDED BY	DATE	BY	NO. OF SHEETS
SYSTEM	DATE	BY	NO. OF SHEETS

SPACE FOR OUTDOOR UNIT
OF PAC AT ROOF

ROOF OF ESP
CONTROL ROOM

Amal Kumar
06-08-2020

PROJECT:		4x210MW KAHALGAON MODIFIED ESP - R&M, UNIT-1 TO 4	
CUSTOMER		 NTPC LIMITED	
CONTRACTOR		 BHARAT HEAVY ELECTRICALS LTD. POWER DIVISION PROJECT & MAINTENANCE MANAGEMENT THERMIA	
DESIGNED BY: CHECKED BY: APPROVED BY: SUPERSEDED BY: SYSTEM:		TITLE : AC EQUIPMENT LAYOUT SIZE: PROJECT NO.: 455 SHEET NO. 4 DATE: 06-08-2020	
		REV 01	