



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT

PROJECT : 1x800 MW TANGEDCO NORTH CHENNAI TPP
PACKAGE : VENTILATION SYSTEM
TENDER ENQUIRY NO.: PE/PG/NC3/E-5607/2017 dtd. 06.05.2017

DATE: - 24.05.2017

Corrigendum-01

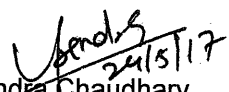
In reference to the above mentioned tender enquiry for Ventilation System package, there are following changes in tender enquiry:

1. Technical Specification have been revised and addendum no. 1 is attached herewith.
2. Due to change in Technical Specifications, the price format is revised and revised price format Rev01 is attached herewith. Vendors to furnish the prices as per latest price format only.
3. Reply of pre-bid queries is enclosed herewith.
4. Vendor who have submitted their offers are requested to take cognizance of above changes and submit the revised offers (if desire so).

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Bidders are requested to ensure submission of offer on or before due date i.e.29.05.2017 (10:00 AM).

Regards


Upendra Chaudhary
Dy. Mgr./ PG-II



**VENTILATION SYSTEM
1X800 TANGEDCO NORTH CHENNAI
TPP**

SPECIFICATION NO. PE-TS-423-554-A001

ADDENDUM No. 1

DATE: 22.05.2017

SHEET 1 OF 2

1X800 TANGEDCO NORTH CHENNAI TPP

ADDENDUM No. 1

(TECH SPEC No. PE-TS-423-554-A001)

VENTILATION SYSTEM



**VENTILATION SYSTEM
1X800 TANGEDCO NORTH CHENNAI
TPP**

SPECIFICATION NO. PE-TS-423-554-A001

ADDENDUM No. 1

DATE: 22.05.2017

SHEET 2 OF 2

AMENDMENT TO EXISTING CLAUSES OF TECHNICAL SPECIFICATION

Sl. No.	Clause	Existing description	To be read as (Amendment)
1	SUGGESTED PRICE FORMAT ANNEXURE - III	--	Refer revised SUGGESTED PRICE FORMAT ANNEXURE - III R-1 dated 22-05- 2017
2	SUGGESTED PRICE FORMAT ANNEXURE - I	--	Refer revised SUGGESTED PRICE FORMAT ANNEXURE - I R-1 dated 22-05-2017
3	--	--	P&ID is indicative and tender purpose only. Revised P&ID R-01

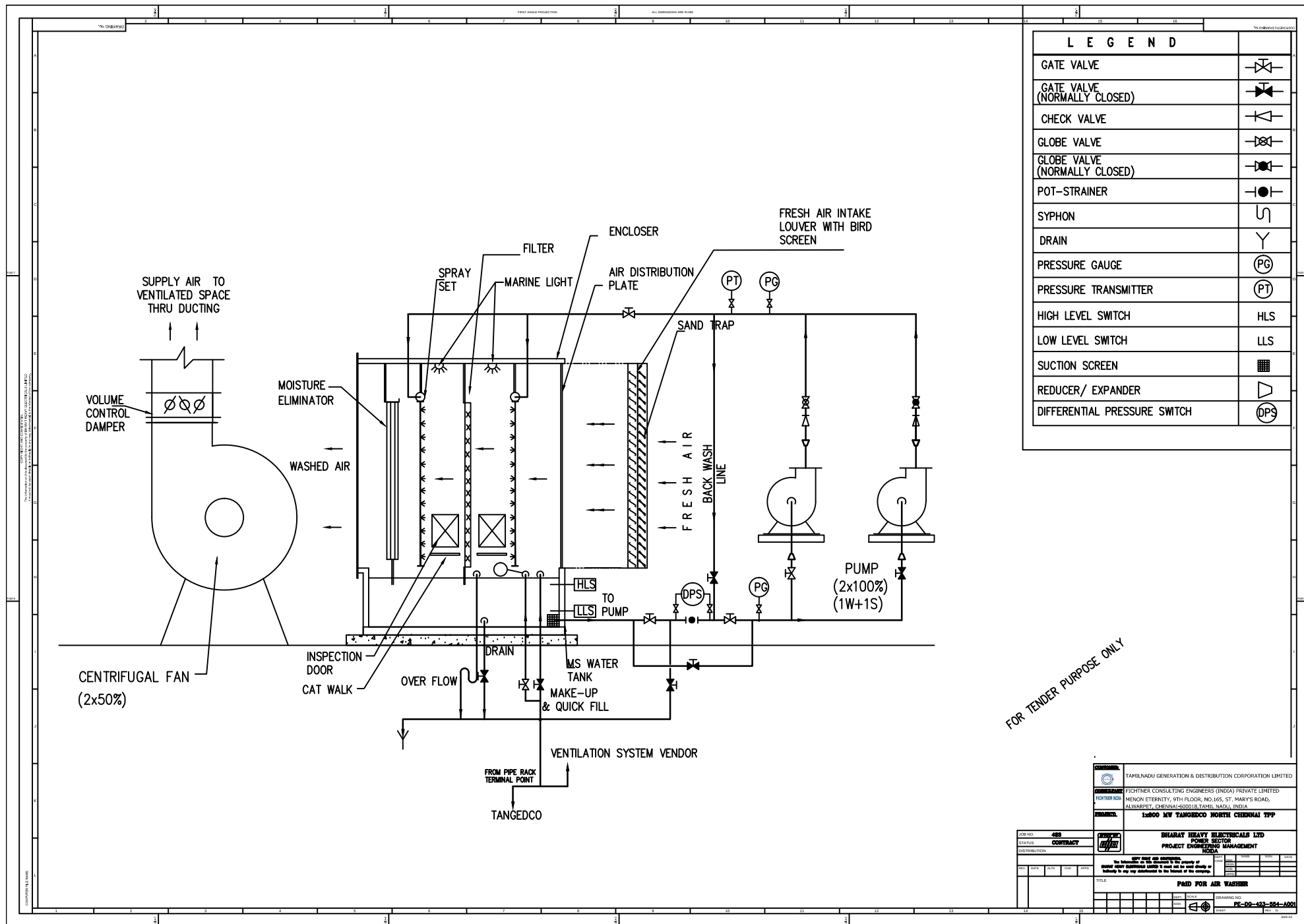
SUGGESTED PRICE FORMAT ANNEXURE - I PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)						Doc No:	PE-PF-423-554-A001
						Rev No:	1
						Date of issue	22.05.2017
NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP				
NAME OF PACKAGE:			VENTILATION SYSTEM				
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001				
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Qty	UNIT	AMO UNT	AMOUNT (Ex-		
1	Sheet metal type air washer unit with centrifugal fan (DIDW) with motor, pumps with motors, filters, air washer internals, inlet air louvers, piping as per IS:1239, Part-I (heavy class galvanised), valves, nozzles, back wash arrangement, galvanised drain piping, etc as per specification of capacity 250000 CMH. Each air washer has 2 no centrifugal fan (2 x 50% duty) of capacity 1,25,000 CMH at min. 75 mm SP. Each centrifugal fan shall be provided with VFD driven motor alongwith VFD and other accessories as required for VFD shall also be included in the price.	4	NO				
2	Unitary air filtration unit with centrifugal fan with motor, pumps with motors, filters, UAF internals, inlet air louvers, piping as per IS: 1239 pt I (heavy class galvanised), valves, nozzles, back wash arrangement, galvanised drain piping etc. as per specification of capacity 100,000 CMH. Each UAF has 1 no centrifugal fan (1 x 100% duty) of capacity 100,000 CMH at min. 60 mmWC SP. Each centrifugal fan shall be provided with VFD driven motor alongwith VFD and other accessories as required for VFD shall also be included in the price.	2	NO				
3*	Supply air ducting (finished) for above area complete with dampers, grills (with VCD & without VCD), supports (painted) and all accessories as specified.						
3.1*	Finished GSS (zinc coating 275 gms/sq.m) Ducting with support structure etc.						
a)*	18 G	2500	SQM*				
b)*	20 G	2700	SQM*				
c)*	22 G	2700	SQM*				
d)*	24 G	3500	SQM*				
3.2*	MS Duct With Epoxy paint for battery room.	200	SQM*				
3.3*	Extruded Aluminium Grilles with VCD	100	SQM*				
3.4*	Extruded Aluminium Grilles without VCD	8	SQM*				
3.5*	Thermal insulation alongwith finish as per specification for supply air duct	1000	SQM*				
3.6*	Wall mounted dampers (gravity operated) for different areas.	30	SQM*				
3.7*	Inlet Louvres	50	SQM*				
3.8*	VOLUME CONTROL DAMPERS in GI construction as per specifications	20	SQM*				
4*	FIRE DAMPER						
a)*	Fire damper	20	SQM*				
b)*	Motorized Actuator with single phase power supply for the above Fire damper with auto resetting, limit switches, indication lamps etc	25	Nos*				
c)*	Fusible Link type Fire Damper	5	SQM*				

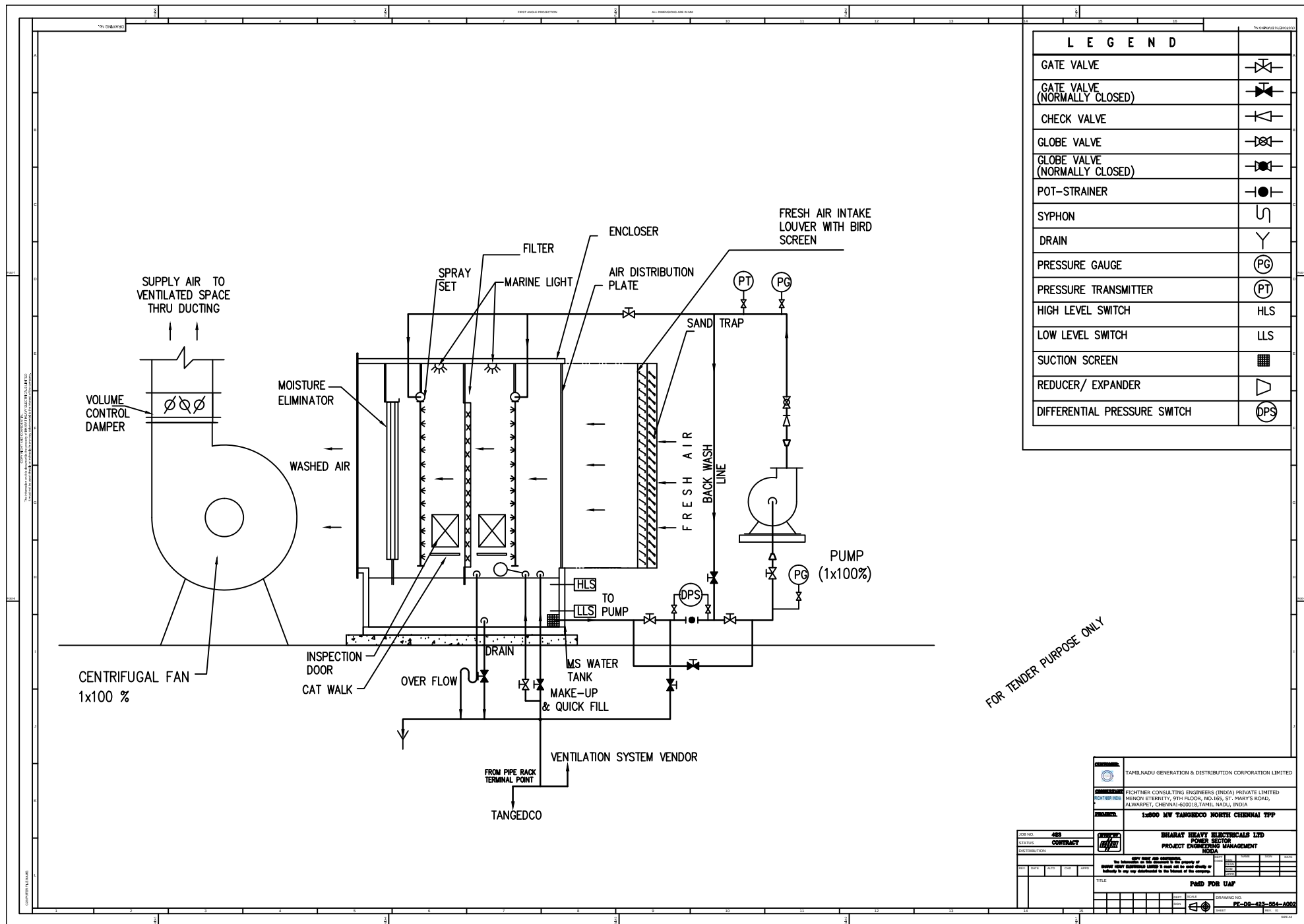
SUGGESTED PRICE FORMAT ANNEXURE - I PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)						Doc No:	PE-PF-423-554-A001
						Rev No:	1
						Date of issue	22.05.2017
NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP				
NAME OF PACKAGE:			VENTILATION SYSTEM				
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001				
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Qty	UNIT	AMO UNT	AMOUNT (Ex-		
5*	Roof extractor units (axial flow type) with hood, disconnect switch and all accessories as specified. Following fan shall have 15 mmwc static pressure.						
a)*	Capacity 50,000 CMH with Motor rating 5.5 KW	24	Nos.*				
b)*	Capacity 40,000 CMH with Motor rating 5.5 KW	5	Nos.*				
c)*	Capacity 20,000 CMH with Motor rating 2.2 KW	2	Nos.*				
6*	Axial flow supply fans with pre and fine filter (wall mounted) complete with casing, TEFC sq cage induction motors & mounting frame, MS rain protection cowl, bird screen and all other accessories (suitable for 415V/3-phase supply). Following fan shall have 32 mmwc static pressure.						
a)*	Capacity 10,000 CMH with Motor rating 2.2 KW	4	Nos.*				
b)*	Capacity 7,500 CMH with Motor rating 1.5 KW	4	Nos.*				
c)*	Capacity 6,000 CMH with Motor rating 1.1 KW	10	Nos.*				
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	6	Nos.*				
7*	Axial flow supply fans with pre filter (wall mounted) complete with casing, TEFC sq cage induction motors & mounting frame, MS rain protection cowl, bird screen and all other accessories (suitable for 415V/3-phase supply) as specified. Following fan shall have 20 mmwc static pressure.						
a)*	Capacity 10,000 CMH with Motor rating 1.5 KW	8	Nos.*				
b)*	Capacity 7,500 CMH with Motor rating 1.1 KW	8	Nos.*				
c)*	Capacity 6,000 CMH with Motor rating 1.1 KW	4	Nos.*				
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	4	Nos.*				
8*	Axial flow exhaust fans (Bifurcated type, spark proof construction, wall mounted) complete with casing, flame proof motor & mounting frame, MS rain protection cowl, bird screen and all other accessories epoxy painted (suitable for 415V/3-phase supply) as specified. Following fan shall have 15 mmwc static pressure.						
a)*	Capacity 15,000 CMH with Motor rating 2.2 KW	6	Nos.*				
b)*	Capacity 10,000 CMH with Motor rating 1.5 KW	5	Nos.*				
c)*	Capacity 7,500 CMH with Motor rating 1.1 KW	12	Nos.*				
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	2	Nos.*				
e)*	Capacity 2,000 CMH with Motor rating 0.55 KW	6	Nos.*				

SUGGESTED PRICE FORMAT ANNEXURE - I PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)						Doc No:	PE-PF-423-554-A001
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NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP				
NAME OF PACKAGE:			VENTILATION SYSTEM				
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001				
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Qty	UNIT	AMO UNT	AMOUNT (Ex-		
9*	Axial flow exhaust fans (Wall mounted) complete with casing,TEFC sq cage induction motor & mounting frame, MS rain protection cowl, bird screen and all other accessories epoxy painted (suitable for 415V/3-phase supply) as specified. Following fan shall have 10 mmwc static pressure.						
a)*	Capacity 15,000 CMH with Motor rating 1.1 KW	6	Nos.*				
b)*	Capacity 10,000 CMH with Motor rating 0.75 KW	6	Nos.*				
c)*	Capacity 7,500 CMH with Motor rating 0.55 KW	20	Nos.*				
d)*	Capacity 6,000 CMH with Motor rating 0.55 KW	6	Nos.*				
e)*	Capacity 4,000 CMH with Motor rating 0.55 KW	2	Nos.*				
f)*	Capacity 2,000 CMH with Motor rating 0.37 KW	5	Nos.*				
10*	Exhaust fan (propeller type) completes with induction motor & mounting frame MS rain protection cowl, bird screen and all other accessories as specified (suitable for 240V/ 1 phase). Following fan shall have 5 mmwc static pressure.						
a)*	Capacity 1200 CMH with Motor rating 100 watts	60	Nos.*				
11	MS piping, for make up water, with valves, fittings etc from terminal point upto Air washer rooms and UAFs.	1	Lot				
12*	Handling arrangement for ventilation equipments						
(a)*	Manually operated, platform trolley of 1 Ton capacity with base area 2m x 1.5m	2	NO*				
(b)*	1T Chain pulley block	2	NO*				
(c)*	1T Chain pulley block with travelling trolley	2	NO*				
13*	Online Non chemical scale preventer, with all accessories for as required to meet system requirements						
a*	For a comination of two Air washer placed at A row and BC bay	2	NO*				
b*	For a comination of two UAF	1	NO*				
14	Total lumpsum price for special tools & tackles for maintenance inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).	1	LOT				
15	Total lumpsum price for commissioning spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).	1	LOT				
16	FIELD INSTRUMENTS like pressure gauge, temperature gauge, pressure switch, transmitters, differential pressure switch, flow switches etc and other instruments as required for Ventilation System.	1	LOT				
17	Preparation of all layouts in 3D	1	LOT				

SUGGESTED PRICE FORMAT ANNEXURE - I PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)						Doc No:		PE-PF-423-554-A001	
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						Date of issue		22.05.2017	
NAME OF PROJECT:				1X800 TANGEDCO NORTH CHENNAI TPP					
NAME OF PACKAGE:				VENTILATION SYSTEM					
TECHNICAL SPECIFICATION No:				PE-TS-423-554-A001					
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM			Qty	UNIT	AMO UNT	AMOUNT (Ex-		
18	Any other item not indicated above, but required to make the system complete in all respects.			1	LOT				
NOTE									
1	The bidder shall furnish unit rates for variable item (marked *) for necessary adjustment (plus or minus) variation during detailed engg. stage. The unit rates quoted above shall be considered and no separate unit rates shall be quoted. Unit rates shall be valid throughout the contract.								
Particulars of bidder / authorised representative									
Name				Designation	Signature		Date	Company Seal	

SUGGESTED PRICE FORMAT ANNEXURE - III Guaranteed Power Consumption For Ventilation System					Doc No:		PE-PF-423-554-A001
					Rev No:		1
					Date of issue		22.05.2017
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP					
NAME OF PACKAGE:		VENTILATION SYSTEM					
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001					
S.NO.	DESCRIPTION OF EQUIPMENT	NO OF EQUIPMENT		TOTAL GUARANTEED POWER CONSUMPTION FOR EACH EQUIPMENT AT MOTOR INPUT TERMINAL AND CONTROL PANEL (IN KW)	DUTY FACTOR		TOTAL KW
		WORKING	STANDBY				
		3A	3B	4	5		6=3Ax4x5
1	VENTILATION SYSTEM FOR TG						
1.1	Centrifugal Fan of cap. 1,25,000 CMH at 75 mmwc static pr for air washers.	8	0		1		
1.2	Pumps for circulation of water in spray chamber of above air washer	4	4		1		
1.3	RE Units 50,000 cmh at 15mmwc	16	0		1		
1.4	Centrifugal Fan of cap. 100,000 CMH at 60 mmwc static pr for UAF.	2	0		1		
1.5	Pump for above UAF.	2	0		1		
				TOTAL (KW)			
Note:	Estimated power consumption (EPC) figure for the system (for working drives only) has been considered as 686 KW. So long bidder's quoted guaranteed power consumption (GPC) above remains within this EPC, there will be no technical loading of bid on power consumption for evaluation. However, if bidder's quoted GPC exceeds EPC, there shall be technical loading of bid for evaluation @ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value. Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in relevant schedule shall be demonstrated by the successful bidder during performance testing at works/ site. In case power consumption is noted higher than EPC / bidder's quoted GPC whichever is higher, during inspection/ PG test, penalty @ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value.						
Particulars of bidder / authorised representative							
	Name	Designation	Signature	DATE	Company Seal		





PRICE FORMAT REV01 (For Indian Bidders)												
Enquiry Number		PE/PG/NC3/E-5607/2017										
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP										
NAME OF PACKAGE:		VENTILATION SYSTEM										
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001_ Rev 00										
S. No.	Description	UNIT	Qty	Price for Supply portion					Price for SERVICES portion			Grand TOTAL
				Total ex-works price (INR)	ED including cess @....% (for self manufactured items only) (INR)	CST @% Against C-form & E1/E2 or VAT @.....% Whichever is applicable (INR)	FREIGHT CHARGES INCLUDING SERVICE TAX) @_____ % OF TOTAL EX-WORKS (INR)	TOTAL FOR site price SUPPLY (INR)	Total price for Services (INR)	Service Tax@ ... % (INR)	TOTAL PRICE (For Services including Service tax) (INR)	
				1	2	3	4	5=1+2+3+4	6	7	8=6+7	9=5+8
1	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part and Mandatory spares comprising of design (i.e.preparation and submission of drawing /documents including “As Built” drawings and O&M manuals), engineering, manufacture, fabrication, assembly, inspection / testing at vendor’s & sub-vendor’s works, painting, maintenance tools & tackles fill of lubricants & consumables, mandatory spares alongwith spares for erection, startup and commissioning as required, forwarding, proper packing, shipment and delivery at site, unloading, handling, transportation & storage at site, in-site transportation, assembly, erection & commissioning, final painting at site, minor civil work, trial run at site, preperation of layout drawings 3D (as applicable) and carrying out Performance guarantee / Functional / Demonstration tests at site (As applicable), training of customer / client O&M staff and handover in flawless condition of the package to the end customer complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification as specified above, amendment & agreements till placement of order.	Lot	1									
2	MAJOR BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE.											
2.1	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part comprising of design (i.e.preparation and submission of drawing /documents including “As Built” drawings and O&M manuals), engineering, manufacture, fabrication, assembly, inspection / testing at vendor’s & sub-vendor’s works, painting, maintenance tools & tackles, fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares as required, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 3D (as applicable) for the total scope defined as per BHEL NIT & tender technical specification as specified above, amendment & agreements till placement of order. (Break-up as per Annexure-I)	Lot	1						NA			
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of service part for unloading, handling, transportation & storage at site, in-site transportation, assembly, erection & commissioning, final painting at site, minor civil work, trial run at site and carrying out Performance guarantee / Functional / Demonstration tests at site (As applicable), training of customer/client O&M staff and handover in flawless condition of the package to the end customer complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification as specified above, amendment & agreements till placement of order. (Break-up as per Annexure-I)	Lot	1	NA								
2.3	Total lumpsum firm price inclusive of all prevailing taxes, duties and other levies for Mandatory spares comprising of manufacture, fabrication, assembly, inspection / testing (as applicable) at vendor’s & sub-vendor’s works, painting, forwarding, proper packing, shipment, delivery at site & guarantee as per tender technical specification above, amendment & agreements till placement of order. (Price break up of mandatory spares is to be furnished as per Annexure- II)	Lot	1						NA			
Note: 1. Bidder to quote Guaranteed Power Consumption for Ventillation System as per Annexure-III. 2. Evaluation shall be done one the basis of total lump sump prices for complete supply and services. Total price indicated above at Column (9) minus service tax quoted at Column (7) of 1.0 shall be considered for evaluation & hence must be completed in all respect for the full scope defined & considering all terms and conditions agreed. Further Swachh Bharat Cess i.e.0.5% of Service tax rate is not cenvatable. Hence, this 0.5% component of cess shall be considered for Evaluation. 3. Bidder to quote the Prices in ‘figures’ along with corresponding ‘words’.												
Particulars of bidder / authorised representative												
	Name	Designation	Signature	Date	Company Seal							

PRICE FORMAT REV01 (Indian Vendors)
ANNEXURE - I
PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)

[illegible]

PRICE FORMAT REV01 (Indian Vendors) ANNEXURE - I PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)

[illegible]

PRICE FORMAT REV01 (Indian Vendors)
ANNEXURE - I
PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)

[illegible]

PRICE FORMAT REV01 (Indian Vendors)
ANNEXURE - I
PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)

ENQUIRY NUMBER		PE/PG/NC3/E-5607/2017												
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP												
NAME OF PACKAGE:		VENTILATION SYSTEM												
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001_Rev 00												
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Qty	UNIT	PRICE FOR SUPPLY PORTION						PRICE FOR SERVICES PORTION				GRAND TOTAL
				Unit Ex-works Price (Rs)	Total ex-works price (Rs)	ED including cess @...% (for self manufactured items only) (INR)	CST @% Against C-form & E1/E2 or VAT @.....% Whichever is applicable (INR)	FREIGHT CHARGES INCLUDING SERVICE TAX) @.....% OF TOTAL EX-WORKS (INR)	TOTAL FOR site price SUPPLY (Rs)	Unit Price (Rs)	Total price (Rs)	Service Tax@ ... % (Rs)	TOTAL PRICE (Erection and commissioning including Service tax)	
				1	2	3	4	5	6=2+3+4+5	7	8	9	10=8+9	11=6+10
a*	For a comination of two Air washer placed at A row and BC bay	2	NO*											
b*	For a comination of two UAF	1	NO*											
14	Total lumpsum price for special tools & tackles for maintenance inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).	1	LOT							NA				
15	Total lumpsum price for commissioning spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).	1	LOT							NA				
16	FIELD INSTRUMENTS like pressure gauge, temperature gauge, pressure switch, transmitters, differential pressure switch, flow switches etc and other instruments as required for Ventilation System.	1	LOT											
17	Preparation of all layouts in 3D	1	LOT											
18	Any other item not indicated above, but required to make the system complete in all respects.	1	LOT											
NOTES														
1	The bidder shall furnish unit rates for variable item (marked *) for necessary adjustment (plus or minus) variation during detailed engg. stage. The unit rates quoted above shall be considered and no separate unit rates shall be quoted. Unit rates shall be valid throughout the contract.													
Particulars of bidder / authorised representative														
Name	Designation		Signature		Date		Company Seal							

PRICE FORMAT REV01 (Indian Vendors)**APPENDIX-A****Special tools & tackles for maintenance**

ENQUIRY NO.:	PE/PG/NC3/E-5607/2017
NAME OF PROJECT:	1X800 TANGEDCO NORTH CHENNAI TPP
NAME OF PACKAGE:	VENTILATION SYSTEM
TECHNICAL SPECIFICATION No:	PE-TS-423-554-A001_Rev 00

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Unit	Qty	SUPPLY	
				Unit Price (Rs)	Total price (Rs)
1	Measuring tape	NO	1		
2	Tachometer	NO	1		
3	Double ended spanner	SET	1		
4	Ring spanners	SET	1		
5	Gasket punch	NO.	1		
6	Center punch	NO.	1		
7	Hammer with wooden handles	NO.	1		
8	Scissors for sheet metal cutting	NO.	1		
9	Torch light (suitable for 2 cells)	NO.	1		
10	Multimeter	NO.	1		
11	Anemometer	NO.	1		
12	Compound pressure gauge	NO.	1		
13	Slide wrench 8"	NO.	1		
14	Slide wrench 10"	NO.	1		
15	Slide wrench 6"	NO.	1		
16	Box spanner set	SET	1		
17	Screw driver set	SET	1		
18	Align key set	SET	1		
19	MS tool box	NO	1		

NOTES

1	ABOVE IS THE MINIMUM LIST. ANY OTHER TOOL / TACKEL REQUIRED FOR THE SYSTEM SHALL ALSO BE PROVIDED BY THE VENDOR WITHOUT ANY COST IMPLICATION.
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Particulars of bidder / authorised representative

Name	Designation	Signature	DATE	Company Seal

PRICE FORMAT REV01 (Indian Vendors)**APPENDIX-B****Commissioning spares**

Enquiry No.		PE/PG/NC3/E-5607/2017			
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP			
NAME OF PACKAGE:		VENTILATION SYSTEM			
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001_Rev 00			
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Unit	Qty	SUPPLY	
				Unit Price (Rs)	Total price (Rs)
1	FAN BELTS	SET	1		
2	PRESSURE GAUGE	NO	1		
3	TEMPERATURE GAUGE	NO	1		
4	FILTER	SET	1		
NOTES					
1	ABOVE IS THE MINIMUM LIST. ANY OTHER COMMISSIONING SPARE REQUIRED FOR THE SYSTEM SHALL ALSO BE PROVIDED BY THE VENDOR WITHOUT ANY COST IMPLICATION.				
Particulars of bidder / authorised representative					
Name	Designation	Signature	DATE	Company Seal	

PRICE FORMAT REV01 (Indian Vendors)									
ANNEXURE - II									
LIST OF MANDATORY SPARES									
ENQUIRY NUMBER			PE/PG/NC3/E-5607/2017						
NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP						
NAME OF PACKAGE:			VENTILATION SYSTEM						
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001_Rev 00						
S. No.	Description	Unit	QTY	PRICE FOR SUPPLY					
				Unit Ex-works Price (Rs)	Total ex-works price (Rs)	ED including cess @...% (for self manufactured items only) (INR)	CST @% Against C-form & E1/E2 or VAT @.....% Whichever is applicable (INR)	FREIGHT CHARGES INCLUDING SERVICE TAX) @% OF TOTAL EX-WORKS (INR)	TOTAL FOR site price SUPPLY (Rs)
A	C&I portion			1	2	3	4	5	6=2+3+4+5
	The quantity of following spares includes a minimum of 20 % spares for replacement of each type of lamps, PBs, ILPBs, fuse, MCB, MCCB used in the equipment/system offered by him even if this is not detailed below.								
i)	Measuring Instruments - Indicators, Recorders, Electrical Metering and Skid Mounted Instruments	Lot	1						
1	10% of the number of indicators, recorders and meters offered from each model for the project or a minimum of one number per model, whichever is more. These instruments shall be supplied with three sets of blank scales.								
2	For skid mounted instruments (if any) - 10% of total number of instruments for each model and type for the project or a minimum of one number for each model and type, whichever is more.								
ii)	Temperature Elements and Thermowells	Lot	1						
1	10% spare thermocouple/RTD elements, suitable for replacement for each type and length of element furnished with thermocouple/RTD assemblies, or a minimum of one number of each type & length, whichever is more.	%	10%						
2	10% thermo wells for each type of temperature sensors or a minimum of one for each type, whichever is more	%	10%						
3	Temperature Transmitters and Electronic Transmitters (For Pressure, DP, Temp, Flow, Level), Temperature, Pressure, Flow & Level Switch, safety switches, Gauges, meters, Transducer or any other instrument etc.								
	10% of total number of instruments/transducers offered for each model and type for the project or a minimum of one number, whichever is more.	Lot	1						
iii)	Relay Based Control Panels	Set	1						
1	10% LEDs for indicating lights shall be furnished.								
2	Three times, the one hundred percent (300% of installed) spare replacement control circuit fuses/MCB/MCCB of each current rating required shall be furnished.								
3	20% spare replacement relays modules & contactors of each type.								
iv)	Alarm Annunciation System	Set	1						
1	20% spares of each type installed shall be provided for logic modules, group card modules, power supply modules, Hooters and any other electronic module.								
2	5% spares of each size shall be provided for un-engraved window boxes complete with LED etc.								
3	20% of installed LEDs for annunciation facia windows and LEDs box assemblies offered for the project shall be provided as mandatory spares.								
4	One (1) spare annunciator hooter of each type.								
v)	Erection hardware	Set	1						
1	Ten (10) percent of each type & Size installed instrument valve, manifold for each type, rating, model number and size of devices supplied for the project.								
2	Ten (10) percent of total number of condensate pots or four numbers whichever is higher of each type & Size installed.								
3	Ten (10) percent of each type & Size installed Fittings								

PRICE FORMAT REV01 (Indian Vendors)									
ANNEXURE - II									
LIST OF MANDATORY SPARES									
vi)	Bidder to supply 10% or 1 no. (whichever is more) of each type of sensor/instrument, analyzers /special instruments/Electronic card, instrumentation/mechanical fittings etc. for any other electronic system, feeder control cabinets, hydra step (EWLI), Vibration Monitoring System, CCTV, C&I Lab Instruments, On line Carbon in Ash analyzer system, On line Coal mass flow/speed measurement system, On line secondary air flow measurement system Mass Flow meter, Solid flow meter, 3 D Acoustic type level transmitters, Nucleonic & non nucleonic density transmitter etc.								
B	Electrical portion								
1	415V Motors								
1.1	Terminal plates	Nos.	10 Nos. each for small motors upto 30 KW & 4 Nos. each for more than 30 KW						
1.2	Heaters	Set	2 sets						
1.3	Greasing arrangements	Set	4 sets each type of motor						
1.4	Motor of each type and rating	Nos.	10% of the installed quantity or minimum 1 number whichever more						
1.5	Bearings (DE and NDE) for each type and rating of motor	Set	4 set						
NOTE	1 Mandatory spares listed above is bare minimum requirement. In case any additional mandatory spares requirement is covered elsewhere in the tender specification apart from specified above, same shall be deemed to have been covered in bidders scope of supply.								
Particulars of bidder / authorised representative									
Name	Designation	Signature	Date						

PRICE FORMAT REV01 (FOR INDIAN BIDDERS)
ANNEXURE - III

Guaranteed Power Consumption For Ventilation System

NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP				
NAME OF PACKAGE:			VENTILATION SYSTEM				
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001_Rev 00				
S.NO.	DESCRIPTION OF EQUIPMENT	NO OF EQUIPMENT		TOTAL GUARANTEED POWER CONSUMPTION FOR EACH EQUIPMENT AT MOTOR INPUT TERMINAL AND CONTROL PANEL (IN	DUTY FACTOR		TOTAL KW
		WORKIN G	STANDBY				
		3A	3B	4	5		6=3Ax4x5
1	VENTILATION SYSTEM FOR TG BUILDING						
1.1	Centrifugal Fan of cap. 1,25,000 CMH at 75 mmwc static pr for air washers.	8	0		1		
1.2	Pumps for circulation of water in spray chamber of above air washer	4	4		1		
1.3	RE Units 50,000 cmh at 15mmwc	16	0		1		
1.4	Centrifugal Fan of cap. 100,000 CMH at 60 mmwc static pr for UAF.	2	0		1		
1.5	Pump for above UAF.	2	0		1		
				TOTAL (KW)			
Note:	Estimated power consumption (EPC) figure for the system (for working drives only) has been considered as 686 KW. So long bidder's quoted guaranteed power consumption (GPC) above remains within this EPC, there will be no technical loading of bid on power consumption for evaluation. However, if bidder's quoted GPC exceeds EPC, there shall be technical loading of bid for evaluation @ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value. Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in relevant schedule shall be demonstrated by the successful bidder during performance testing at works/ site. In case power consumption is noted higher than EPC / bidder's quoted GPC whichever is higher, during inspection/ PG test, penalty @ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value.						
Particulars of bidder / authorised representative							
	Name	Designation	Signature	DATE	Company Seal		

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PRICE FORMAT REV01 (For Foreign Bidders)																					
ANNEXURE - I																					
PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)																					
ENQUIRY NUMBER			PE/PG/NC3/E-5607/2017																		
NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP																		
NAME OF PACKAGE:			VENTILATION SYSTEM																		
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001_Rev 00																		
Sl NO	DESCRIPTION OF EQUIPMENT/ ITEM	Qty	UNIT	PRICES FOR IMPORTED ITEMS (Supply not from Indian Territory)						PRICES FOR INDIGENEOUS ITEMS (Supply from Indian Territory)						Total Supply Price	PRICE FOR SERVICES				GRAND TOTAL
				UNIT C&F Seaport Price	Total C&F Seaport Price	Ocean / Marine Insurance	Custom Duty after availing CENVAT benefit if applicable	Inland FREIGHT CHARGES (INCLUDING SERVICE TAX)	F.O.R. site Imported Items supply price	Unit EX-WORKS PRICE	TOTAL EX-WORKS PRICE	ED including cess @ ...% (for self manufactured items only)	CST @% Against C-form & E1/E2 or VAT @.....% Whichever is applicable	FREIGHT CHARGES INCLUDING SERVICE TAX) @.....% OF TOTAL EX-WORKS	TOTAL F.O.R SITE PRICE	Total FOR Site IMPORTED + INDIGENEOUS SUPPLY [(Currency x INR)+INR]	SERVICES Unit Price	Total PRICE FOR SERVICES	SERVICE TAX @%	Total INCLUDING SERVICE TAX	Total Lumpsum price for supply [IMPORTED + INDIGENEOUS SUPPLY] and SERVICES with Service tax.
				1	2	3	4	5	6=1+2+4+5	7	8	9	10	11	12=8+9+10+11	13=6+12	14	15	16	17=15+16	18=13+17
1	Sheet metal type air washer unit with centrifugal fan (DIDW) with motor, pumps with motors, filters, air washer internals, inlet air louvers, piping as per IS:1239, Part-I (heavy class galvanised), valves, nozzles, back wash arrangement, galvanised drain piping, etc as per specification of capacity 250000 CMH. Each air washer has 2 no centrifugal fan (2 x 50% duty) of capacity 1,25,000 CMH at min. 75 mm SP. Each centrifugal fan shall be provided with VFD driven motor alongwith VFD and	4	NO																		
2	Unitary air filtration unit with centrifugal fan with motor, pumps with motors, filters, UAF internals, inlet air louvers, piping as per IS: 1239 pt I (heavy class galvanised), valves, nozzles, back wash arrangement, galvanised drain piping etc. as per specification of capacity 100,000 CMH. Each UAF has 1 no centrifugal fan (1 x 100% duty) of capacity 100,000 CMH at min. 60 mmWC SP. Each centrifugal fan shall be provided with VFD driven motor alongwith VFD and other accessories as required for VFD shall also be included in the price.	2	NO																		
3*	Supply air ducting (finished) for above area complete with dampers, grills (with VCD & without VCD), supports (painted) and all accessories as specified.																				
3.1*	Finished GSS (zinc coating 275 gms/sq.m) Ducting with support structure etc.																				
a)*	18 G	2500	SQM*																		
b)*	20 G	2700	SQM*																		
c)*	22 G	2700	SQM*																		
d)*	24 G	3500	SQM*																		
3.2*	MS Duct With Epoxy paint for battery room.	200	SQM*																		
3.3*	Extruded Aluminium Grilles with VCD	100	SQM*																		
3.4*	Extruded Aluminium Grilles without VCD	8	SQM*																		
3.5*	Thermal insulation alongwith finish as per specification for supply air duct	1000	SQM*																		
3.6*	Wall mounted dampers (gravity operated) for different areas.	30	SQM*																		
3.7*	Inlet Louvres	50	SQM*																		
3.8*	VOLUME CONTROL DAMPERS in GI construction as per specifications	20	SQM*																		
4*	FIRE DAMPER																				
a)*	Fire damper	20	SQM*																		
b)*	Motorized Actuator with single phase power supply for the above Fire damper with auto resetting, limit switches, indication lamps etc	25	Nos*																		
c)*	Fusible Link type Fire Damper	5	SQM*																		
5*	Roof extractor units (axial flow type) with hood, disconnect switch and all accessories as specified. Following fan shall have 15 mmwc static pressure.																				
a)*	Capacity 50,000 CMH with Motor rating 5.5 KW	24	Nos.*																		
b)*	Capacity 40,000 CMH with Motor rating 5.5 KW	5	Nos.*																		
c)*	Capacity 20,000 CMH with Motor rating 2.2 KW	2	Nos.*																		
6*	Axial flow supply fans with pre and fine filter (wall mounted) complete with casing, TEFC sq cage induction motors & mounting frame, MS rain protection cowl, bird screen and all other accessories (suitable for 415V/3-phase supply). Following fan shall have 32 mmwc static pressure.																				
a)*	Capacity 10,000 CMH with Motor rating 2.2 KW	4	Nos.*																		
b)*	Capacity 7,500 CMH with Motor rating 1.5 KW	4	Nos.*																		
c)*	Capacity 6,000 CMH with Motor rating 1.1 KW	10	Nos.*																		
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	6	Nos.*																		
7*	Axial flow supply fans with pre filter (wall mounted) complete with casing, TEFC sq cage induction motors & mounting frame, MS rain protection cowl, bird screen and all other accessories (suitable for 415V/3-phase supply) as specified. Following fan shall have 20 mmwc static pressure.																				
a)*	Capacity 10,000 CMH with Motor rating 1.5 KW	8	Nos.*																		
b)*	Capacity 7,500 CMH with Motor rating 1.1 KW	8	Nos.*																		
c)*	Capacity 6,000 CMH with Motor rating 1.1 KW	4	Nos.*																		
d)*	Capacity 4,000 CMH with Motor rating 0.75 KW	4	Nos.*																		

PRICE BREAKUP (FOR MAIN PLANT, ESP AND OTHER AUX BUILDINGS)	
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ENQUIRY NUMBER	PE/PG/NC3/E-5607/2017
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NAME OF PROJECT:	1X800 TANGEDCO NORTH CHENNAI TPP
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NAME OF PACKAGE:	VENTILATION SYSTEM
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TECHNICAL SPECIFICATION No: PE-TS-423-554-A001_Rev 00

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PRICE FORMAT REV01 (For Foreign Bidders)

APPENDIX-A

Special tools & tackles for maintenance

ENQUIRY NUMBER	PE/PG/NC3/E-5607/2017
NAME OF PROJECT:	1X800 TANGEDCO NORTH CHENNAI TPP
NAME OF PACKAGE:	VENTILATION SYSTEM
TECHNICAL SPECIFICATION No:	PE-TS-423-554-A001_Rev 00

SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Unit	Qty	SUPPLY PRICE	
				Unit Price (Rs)	Total price (Rs)
1	Measuring tape	NO	1		
2	Tachometer	NO	1		
3	Double ended spanner	SET	1		
4	Ring spanners	SET	1		
5	Gasket punch	NO.	1		
6	Center punch	NO.	1		
7	Hammer with wooden handles	NO.	1		
8	Scissors for sheet metal cutting	NO.	1		
9	Torch light (suitable for 2 cells)	NO.	1		
10	Multimeter	NO.	1		
11	Anemometer	NO.	1		
12	Compound pressure gauge	NO.	1		
13	Slide wrench 8"	NO.	1		
14	Slide wrench 10"	NO.	1		
15	Slide wrench 6"	NO.	1		
16	Box spanner set	SET	1		
17	Screw driver set	SET	1		
18	Align key set	SET	1		
19	MS tool box	NO	1		

NOTES

- | | |
|---|---|
| 1 | ABOVE IS THE MINIMUM LIST. ANY OTHER TOOL / TACKEL REQUIRED FOR THE SYSTEM SHALL ALSO BE PROVIDED BY THE VENDOR WITHOUT ANY COST IMPLICATION. |
|---|---|

Particulars of bidder / authorised representative

Name	Designation	Signature	DATE	Company Seal

PRICE FORMAT REV01 (For Foreign Bidders)

APPENDIX-B

Commissioning spares

ENQUIRY NUMBER		PE/PG/NC3/E-5607/2017			
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP			
NAME OF PACKAGE:		VENTILATION SYSTEM			
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001_Rev 00			
SL NO	DESCRIPTION OF EQUIPMENT/ ITEM	Unit	Qty	SUPPLY	
				Unit Price (Rs)	Total price (Rs)
1	FAN BELTS	SET	1		
2	PRESSURE GAUGE	NO	1		
3	TEMPERATURE GAUGE	NO	1		
4	FILTER	SET	1		
NOTES					
1	ABOVE IS THE MINIMUM LIST. ANY OTHER COMMISSIONING SPARE REQUIRED FOR THE SYSTEM SHALL ALSO BE PROVIDED BY THE VENDOR WITHOUT ANY COST IMPLICATION.				
Particulars of bidder / authorised representative					
Name	Designation	Signature	DATE	Company Seal	

PRICE FORMAT REV01 (For Foreign Bidders)
ANNEXURE - II

LIST OF MANDATORY SPARES

ENQUIRY NUMBER			PE/PG/NC3/E-5607/2017													
NAME OF PROJECT:			1X800 TANGEDCO NORTH CHENNAI TPP													
NAME OF PACKAGE:			VENTILATION SYSTEM													
TECHNICAL SPECIFICATION No:			PE-TS-423-554-A001_Rev 00													
S. No.	Description	Unit	QTY	IMPORTED ITEMS (Supply not from Indian Territory)						INDIGENEOUS ITEMS (Supply from Indian Territory)					TOTAL FOR Site Price	
				UNIT C&F SEAPORT Price	TOTAL C&F SEAPORT Price	Ocean / Marine Insurance	Custom Duty after availing CENVAT benefit if applicable	Inland FREIGHT CHARGES (INCLUDING SERVICE TAX)	F.O.R. site Imported Items supply price	UNIT EX-WORKS PRICE	TOTAL EX-WORKS PRICE	ED including cess @...% (for self manufactured items only)	CST @% Against C-form & E1/E2 or VAT @.....% Whichever is applicable	FREIGHT CHARGES INCLUDING SERVICE TAX) @ _____% OF TOTAL EX-WORKS	TOTAL F.O.R SITE PRICE	Total FOR Site price IMPORTED + INDIGENOUS ITEMS
A	C&I portion			1	2	3	4	5	6=1+2+4+5	7	8	9	10	11	12=8+9+10+11	13=6+12
	The quantity of following spares includes a minimum of 20 % spares for replacement of each type															
i)	Measuring Instruments - Indicators, Recorders, Electrical Metering and Skid Mounted Instruments	Lot	1													
1	10% of the number of indicators, recorders and meters offered from each model for the project or a minimum of one number per model, whichever is more. These instruments shall be supplied with three sets of blank scales.															
2	For skid mounted instruments (if any) - 10% of total number of instruments for each model and type for the project or a minimum of one number for each model and type, whichever is more.															
ii)	Temperature Elements and Thermowells	Lot	1													
1	10% spare thermocouple/RTD elements, suitable for replacement for each type and length of element furnished with thermocouple/RTD assemblies, or a minimum of one number of each type & length, whichever is more.	%	10%													
2	10% thermo wells for each type of temperature sensors or a minimum of one for each type, whichever is more	%	10%													
3	Temperature Transmitters and Electronic Transmitters (For Pressure, DP, Temp, Flow, Level), Temperature, Pressure, Flow & Level Switch, safety switches, Gauges, meters, Transducer or any other instrument etc.															
	10% of total number of instruments/transducers offered for each model and type for the project or a minimum of one number, whichever is more.	Lot	1													
iii)	Relay Based Control Panels	Set	1													
1	10% LEDs for indicating lights shall be furnished.															
2	Three times, the one hundred percent (300% of installed) spare replacement control circuit fuses/MCB/MCCB of each current rating required shall be furnished.															
3	20% spare replacement relays modules & contactors of each type.															
iv)	Alarm Annunciation System	Set	1													
1	20% spares of each type installed shall be provided for logic modules, group card modules, power supply modules, Hooters and any other electronic module.															

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PRICE FORMAT REV01 (For Foreign Bidders) ANNEXURE - II	
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LIST OF MANDATORY SPARES

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PRICE FORMAT REV01 (For Foreign Bidders) ANNEXURE - II	
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LIST OF MANDATORY SPARES

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PRICE FORMAT REV01 (For Foreign Bidders)
ANNEXURE - III

Guaranteed Power Consumption For Ventilation System

ENQUIRY NUMBER:		PE/PG/NC3/E-5607/2017					
NAME OF PROJECT:		1X800 TANGEDCO NORTH CHENNAI TPP					
NAME OF PACKAGE:		VENTILATION SYSTEM					
TECHNICAL SPECIFICATION No:		PE-TS-423-554-A001_Rev 00					
S.NO.	DESCRIPTION OF EQUIPMENT	NO OF EQUIPMENT		TOTAL GUARANTEED POWER CONSUMPTION FOR EACH EQUIPMENT AT MOTOR INPUT TERMINAL AND CONTROL PANEL (IN	DUTY FACTOR		TOTAL KW
		WORKIN G	STANDBY				
		3A	3B	4	5		6=3Ax4x5
1	VENTILATION SYSTEM FOR TG BUILDING						
1.1	Centrifugal Fan of cap. 1,25,000 CMH at 75 mmwc static pr for air washers.	8	0		1		
1.2	Pumps for circulation of water in spray chamber of above air washer	4	4		1		
1.3	RE Units 50,000 cmh at 15mmwc	16	0		1		
1.4	Centrifugal Fan of cap. 100,000 CMH at 60 mmwc static pr for UAF.	2	0		1		
1.5	Pump for above UAF.	2	0		1		
				TOTAL (KW)			

Note: Estimated power consumption (EPC) figure for the system (for working drives only) has been considered as **686 KW**. So long bidder's quoted guaranteed power consumption (GPC) above remains within this EPC, there will be no technical loading of bid on power consumption for evaluation. However, if bidder's quoted GPC exceeds EPC, there shall be technical loading of bid for evaluation@ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value.

Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in relevant schedule shall be demonstrated by the successful bidder during performance testing at works/ site. In case power consumption is noted higher than EPC / bidder's quoted GPC whichever is higher, during inspection/ PG test, penalty @ Rs 4,70,72,094/- per for every 0.01% increase or part thereof from guaranteed value.

Particulars of bidder / authorised representative

Name	Designation	Signature	DATE	Company Seal



1x800 MW TANGEDCO NORTH CHENNAI TPP
VENTILATION SYSTEM
PRE-BID CLARIFICATION SCHEDULE

SPECIFICATION NO: PE-TS-423-554-A001

VOLUME: II

SECTION: 4

REV. NO. 00

DATE: April 2017

SHEET: of

PRE-BID CLARIFICATION SCHEDULE

S. NO.	SECTION/CLAUSE/PAGE NO.	STATEMENT OF THE REFERRED CLAUSE	CLARIFICATION REQUIRED
1	Clause No.2.1.10.4 (v) Volume-II, Section-2, Page No. 41 of 674	Design Criteria for Ventilation System	Kindly confirm Redundency of the equipments like a) Fan for Air Washer 2x50 % or 3x33% b) Pump for UAF 1x100 % or 2x100 %
2	Sl.No. 4.b) of Price Schedule	Motorized Actuator with single phase indicated lamps, etc.	Kindly confirm, whether motorized Actuator of single phase or 3 phase since customer specification indicates Motorized Actuator of 3 phase only. Where as in Price schedule under sl no 4.b) indicates 1 ph Actuator only. Referring the same clause of above please confirm the unit of Motorized Actuator as indicated in Sq.Mt.
3	Clause No.2.1.10.7.1 (c), Volume-II Section-2, Page no. 47 of 674	Air Washer shall be double bank spray type mainly In the Air Washer Plant Room	The internals Air Washer contain Pre & Fine Filter both whereas PID indicated only one layer of Filter. Kindly confirm
4	Clause No.2.1.10.8.7 (k), Volume-II Section-2, Page no.57 of 674	Supply Air Grille shall be mill finished shall be furnished by the bidder	MOC of supply Air Grill indicated Extruded Aluminium in the referred clause whereas in the price Schedule indicates MS Grille. Kindly confirm
5	Clause No.2.1.10.8.15, Volume-II Section-2, Page no.63 of 674	Axial & Propeller fans shall have single piece cast aluminium impeller with blades of aerofoil design The same shall be spray or hot dip galvanized.	Single piece cast aluminium constructed propeller fans are not available in the market. Only MS fabricated Impeller will be available and the same items we have supplied in our earlier BHEL projects. Kindly confirm.
6	Refer PID for Air Washer & UAF		Please confirm No. & type of instruments will be considered as per PID. Since there is lot of confusions in the different clauses of specification, like clause No. 2.3.3.1 - General requirement, chapter-III under technical specification (C&I)
7	Refer PID for UAF		Double bank spray arrangement is shown in PID where as in the specification of UAF indicates single bank spray arrangement. Please confirm which one is correct.
8	Refer Annexure-III of Price Schedule		Kindly provide the correct sheet of Guaranteed Power Consumption (GPC) under the same Annexure.

a) Air washer fan shall be 2x50%.
b) no such configuration for UAF pump is mentioned. Bidder to check specification.

Actuator for fire damper shall be Single phase.

Refer addendum-1

P&ID is indicative, for tender purpose only. Bidder to follow specification.

Refer addendum-1

Bidder to comply specification. However specific constraints shall be discussed with end customer during detail engineering and shall be subjected to customer approval Bidder noted and confirmed.

P&ID is indicative, for tender purpose only. Bidder to follow specification.

UAF shall be double bank spray system.

Refer addendum-1.

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1x800 MW TANGEDCO NORTH CHENNAI TPP
VENTILATION SYSTEM
PRE-BID CLARIFICATION SCHEDULE

SPECIFICATION NO: PE-TS-423-554-A001

VOLUME: II

SECTION: 4

REV. NO. 00

SHEET: of

DATE: April 2017

PRE-BID CLARIFICATION SCHEDULE

S. NO.	SECTION/CLAUSE/PAGE NO.	STATEMENT OF THE REFERRED CLAUSE	CLARIFICATION REQUIRED
9	Sl.No.6 under Sub-section-C1, Page No. 26 of 674 of Specific requirement	A margin of 10% shall be considered while sizing the equipment (Air Washer, UAF and Pumps). Design margin shall be maintain as follows: For Fan a)Head-20% b)Flow-20% For Pump a)Head-20% b)Flow-15%	Should we consider 10% margin on the capacities indicated for Air Washer, UAF & Pumps .Whereas you also mentioned to keep design margin For Fan a)Head-20% b)Flow-20% - For Pump a)Head-20% b)Flow-15% . Margin in both cases like flow & head cannot be provided simultaneously in the same model - Please clarify

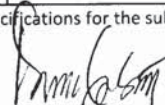
Bidder to follow specification.

The bidder hereby clarifies that above mentioned are the only clarifications required on the technical specifications for the subject package.



Company Seal

Signature
Name
Designation
Company
Date


M B CHAKRABORTY
Head Marketing
C.DOCTOR & CO. (P) LTD.
17.05.2017

S.NO	QUERIES	BHEL REPLIES
1.	In your technical specification no. PE-TS-423-554-A001 of section 1, sub-section C1, having clause 1.1 (Page 22 of 674) and in section: I sub section: C2A customer specification technical requirement at clause no. 2.1.10.8.11 (page 61 of 674), you have mentioned that the UAF shall be of single bank construction. Whereas, in P & ID for UAF system, you have showed the UAF in double bank construction also at sub-section C1, having clause 3.1 (Page 21 of 674) you have mentioned that the saturation efficiency of UAF shall be 90% which is feasible in double bank construction. Kindly confirm the no. of banks required for Unitary Air filtration unit.	UAF shall be double bank spray system with 90% saturation efficiency.
2.	In your price format (Annexure- III) for Guaranteed power consumption for ventilation system, you have mentioned centrifugal fan for AWU of 1, 30,000 CMH of 17 Nos., pump for Air washer unit of 17 Nos. (Working)., roof extractor of 50,000 CMH of 26 Nos. and centrifugal fan of UAF is 75,000 CMH. Whereas in price format, Annexure –I, you have mentioned the centrifugal fan for AWU of 1, 25,000 CMH of 8 Nos., pump for Air washer unit of 4 Nos (working)., roof extractor of 50,000 CMH of 24 Nos. and centrifugal fan of UAF is 100,000 CMH. Kindly confirm the capacities and quantities of above.	Refer addendum-1