

Bill of QUANTITY				
NAME OF PROJECT:		1X660 MW PANKI TPS EXTN		
NAME OF PACKAGE:		MILL REJECT SYSTEM (PNEUMATIC TYPE)		
TECHNICAL SPECIFICATION:		PE-TS-426-160-A001		
S. No.	DESCRIPTION	UNIT	QTY	HSN CODE
1.0	Total lump sum firm price for SUPPLY PART, SERVICE PART & 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, first 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, minor civil works, erection & commissioning, trial run at site, preparation of drawings and carrying out performance guarantee/Functional/Demonstration tests at site (As applicable) & final handing over to end customer in flawless condition for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	Lot	1	
2.0	MAJOR BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE.			
2.1	Prices 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, first fill of lubricants & consumables, alongwith spares for erection, startup and commissioning as required, forwarding, proper packing, shipment and delivery at site, preparation of drawings for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	Lot	1	8428 90 90
2.2	Total lumpsum firm prices for the SERVICES comprising of unloading, handling, transportation & storage at site, in site transportation, assembly, minor civil works, erection & commissioning, final painting at site, trial run at site, and carrying out performance guarantee/Functional/Demonstration tests at site (As applicable) & final handing over to end customer in flawless condition for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	Lot	1	998732
2.5	Total lumpsum firm price 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.	Lot	1	8431 39 90
Particulars of bidder / authorised representative				
Name	Designation	Signature	Date	Company Seal

BOQ			PE-PF-426-160-A001
LIST OF MANDATORY SPARES		Rev No:	0
		Date of issue	
NAME OF PROJECT:		1X660 MW PANKI TPS EXTN	
NAME OF PACKAGE:		MILL REJECT SYSTEM (PNEUMATIC TYPE)	
TECHNICAL SPECIFICATION:		PE-TS-426-160-A001	
SL. NO	DESCRIPTION	UNITS	TOTAL QUANTITY INCLUDED FOR THE PROJECT
A	Pneumatic Conveying System		
1	Conveying System Spares		
(i)	Pneumatic main valves	sets of each type	4
(ii)	Pneumatic/Solenoid Two/ Three position control valve	sets of each type	4
(iii)	Plate/Dome valve(including seals) with Actuators (pneumatic/hydraulic)	nos.	6
(iv)	Plate/Dome valve seals	set	6
2	Mill reject Compressor		
(i)	Compressor	no.	1
(ii)	Compressor motor	no.	1
3	Indicators, Recorders, Electrical Metering and Skid Mounted Instruments		
(i)	Indicators, recorders and meters offered from each model for the project. These instruments shall be supplied with three sets of blank scales.	Nos.	10 % of Installed of each type/Model or a minimum of one number for each model and type, whichever is more
(ii)	For skid mounted instruments	Nos.	10% of total number of instruments for each Type and model or a minimum of one number for each model and type, whichever is more
(iii)	Panel and Wall mounted Indicators	Nos.	10% of total number of instruments or a minimum of one number for each type, model range etc. whichever is more
4	Temperature Elements and Thermowells		
(i)	Thermocouple/RTD elements	Nos.	15% of flue gas temp, coal air mixture temp, boiler/TG metal temp thermocouples and 5% for other applications of total duplex thermocouple element assemblies and duplex RTD assemblies (with head assembly, terminal block and nipple) of each type and length whichever is more. The element assembly shall be suitable for direct replacement in the corresponding thermowell.

(ii)	Thermowells	Nos.	10% for each type of temperature sensors or a minimum of one for each type & size, whichever is more
5	Temperature Transmitters and Electronic Transmitters of all type, range and model no. (For Pressure, DP, Temp, Flow, Level), Process Transmitters, Radar type level transmitter, 3D type level Transmitter with local display, Magnetic/Electromagnetic flow meter with local display, mass flow meter with local display., Process meters, Junction Box, Position Transmitter, Transducer or any other instrument etc.	Nos.	10% of total number of instruments/transducers offered for each model and type, rating or a minimum of one number each model, rating and type, whichever is more.
6	Process actuated switch Devices- As applicable for each package		
(i)	Temperature Switches	Nos.	5% of total nos. or 1 no. of each make, model, range and type whichever is more
(ii)	Differential pressure Switches	Nos.	-do-
(iii)	pressure Switches	Nos.	-do-
(iv)	Flow switches	Nos.	-do-
(v)	Level Switches	Nos.	-do-
(vi)	Safety Protection Switches	Nos.	-do-
7	Local Gauges like temperature gauges, pressure gauges, differential Pressure gauges, flow gauges, flow meters with local display etc.	Nos.	10% of total number of instruments/transducers offered for each model and type, rating or a minimum of one number each model, rating and type, whichever is more.
8	All type of Rotameters & Sight Flow Indicator.	no. of each range and type	1
9	PD Type flow transmitters with local display.	no. of each type and model	1
10	Guided wave RADAR for Hot well	Nos.	1
11	Guided wave RADAR for LP heaters	Nos.	1 no. for each of the LP heaters
12	Impact head type flow element	Nos.	20% or 2 nos. of each make and type, whichever is more
13	Ultrasonic type flow measurement	Nos.	20% or 2 nos. of each make and type, whichever is more
14	Ultrasonic type level transmitter	Nos.	50% of each type and length, including sensors
15	Any other instruments not indicated in the tender P&ID but required for control, monitoring and operation of the equipment/plant/systems	Nos.	10% or 2 nos. of each type whichever is more
16	Level Gauges		
(i)	10% or 2 nos. whichever is more of each type of illuminators with holder and reflector.	Nos.	

(ii)	20% or 5 nos. whichever is more of each type of bulb.	Nos.	
(iii)	10% or 2 nos. whichever is more of each type of bi-color rollers.	Nos.	
(iv)	10% or 2 nos. whichever is more of each type of glass along with pair of gaskets (cushion & wet gaskets).	Nos.	
(v)	10% or 2 nos. whichever is more of each type of gaskets for gauge cocks/valve bonnet/ packing.	Nos.	
(vi)	10% or 2 nos. whichever is more of each type scale.	Nos.	
17	Complete Electronic card/PCB assembly and Power supply card assembly.	Nos.	10% of Electronic card/PCB assembly for each type, model & rating or a minimum of one number for each model, rating and type, whichever is more for each type of Transmitter, switch Flow Meters.

18	415 V Motors		
(i)	Terminal plates	10 Nos. each for small motors upto 30 kW & 4 Nos. each for more than 30 kW	
(ii)	Heaters	set	2
(iii)	Greasing arrangements	sets each type of motor	4
(iv)	Motor of each type and rating	10% of the installed quantity or minimum 1 number whichever be higher (Excluding compressor motor)	
(v)	Bearings (DE and NDE) for each type and rating of motors.	set	4
(vi)	Stator winding coils for all type of LT	set	1
(vii)	Dust seals and gaskets for each type of motors	set	3
19	LP piping- Valves [Complete valve along with Actuators (pneumatic / hydraulic) and all other accessories which are the part of original supply shall be supplied]	5% of the total population (minimum 2 Nos) for each type, material, size and class, whichever is more	
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. 2. Bidder to refer notes mentioned in technical specification regarding mandatory spares.			
Particulars of bidder / authorised representative			
Name	Designation	Signature & company seal	