

SUGGESTED PRICE FORMAT		Doc No:	PE-PF-445-160-A001			
		Rev No:	0			
		Date of issue	26.07.2021			
NAME OF PROJECT:		SAGARDIGHI THERMAL POWER PROJECT, 1 X 660 MW UNIT NO 5, STAGE III.				
NAME OF PACKAGE:		MILL REJECT SYSTEM (PNEUMATIC TYPE) & COAL BUNKER DEBLOCKING DEVICES				
TECHNICAL SPECIFICATION:		PE-TS-445-160-A001				
S. No.	DESCRIPTION	UNIT	QTY	AMOUNT (Ex-Works)		
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies 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, fill of lubricants and consumables required for pre-commissioning, commissioning 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, final painting at site, trial run at site and carrying out performance guarantee/Functional/Demonstration tests at site (As applicable), training of Customer & final handing over to 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	MILL REJECT SYSTEM (PNEUMATIC TYPE) - MAJOR BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE.					
2.1	Prices inclusive of all prevailing taxes, duties and other levies for SUPPLY part for MILL REJECT SYSTEM (PNEUMATIC TYPE) 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 and consumables required for pre-commissioning, commissioning, alongwith spares for erection, start-up and commissioning as required, forwarding, proper packing, shipment and delivery at site 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. (Break-up as per Annexure-I)	Lot	1			
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for the SERVICES for MILL REJECT SYSTEM (PNEUMATIC TYPE) 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,carrying out Performance guarantee/Functional/Demonstration tests at site (As applicable), training of Customer & 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			
2.3	Total lumpsum firm price inclusive of all prevailing taxes, duties and other levies for Mandatory spares for MILL REJECT SYSTEM (PNEUMATIC TYPE) 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			
3.0	COAL BUNKER DEBLOCKING DEVICES- MAJOR BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE.					
3.1	Prices inclusive of all prevailing taxes, duties and other levies for SUPPLY part for COAL BUNKER DEBLOCKING DEVICES 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 and consumables required for pre-commissioning, commissioning, alongwith spares for erection, start-up and commissioning as required, forwarding, proper packing, shipment and delivery at site 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. (Break-up as per Annexure-I)	Lot	1			
3.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for the SERVICES for COAL BUNKER DEBLOCKING DEVICES 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,carrying out Performance guarantee/Functional/Demonstration tests at site (As applicable), training of Customer & 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			

3.3	Total lumpsum firm price inclusive of all prevailing taxes, duties and other levies for Mandatory spares for COAL BUNKER DEBLOCKING DEVICES 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- III).	Lot	1	
-----	---	-----	---	--

Note:
1.) BOP to consider and suitably incorporate taxes, duties and other commercial aspects.
2.) Bidder to quote the Prices in 'figures' along with corresponding 'words'.

Particulars of bidder / authorised representative

Name	Designation	Signature	Date	Company Seal

SUGGESTED PRICE FORMAT ANNEXURE-I		Doc No:	PE-PF-445-160-A001		
		Rev No:	0		
		Date of issue	26.07.2021		
NAME OF PROJECT:		SAGARDIGHI THERMAL POWER PROJECT, 1 X 660 MW UNIT NO 5, STAGE III.			
NAME OF PACKAGE:		MILL REJECT SYSTEM (PNEUMATIC TYPE) & COAL BUNKER DEBLOCKING DEVICES			
TECHNICAL SPECIFICATION:		PE-TS-445-160-A001			
S. No.	DESCRIPTION	UNIT	QUANTITY	SUPPLY	SUPPLY
				UNIT PRICE (Ex-Works)	TOTAL PRICE (Ex- Works)
	BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.				
2.1	Break up of Prices inclusive of all prevailing taxes, duties and other levies for SUPPLY part for MILL REJECT SYSTEM (PNEUMATIC TYPE) 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 and consumables required for pre-commissioning, commissioning alongwith spares for erection,startup and commissioning as required, forwarding, proper packing, shipment and delivery at site 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		
2.1.1	Transporter vessel with dome/ butterfly/ vertical swing type valve, insert plates and accessories.	Nos.	8		
2.1.2	Pyrite hopper with level probes, temperature switch, rupture disc, metallic expansion bellow.	Nos.	8		
2.1.3	Pneumatic panel/ air control module/ solenoid box and/or Junction box with accessories.	Nos.	8		
2.1.4	Storage bunkers, pressure relief valves, bag filters with differential pressure transmitter, terminal boxes, level transmitters, chain pulley blocks, bunker discharge gate with accessories.	Sets	2		
2.1.5	Air compressors with drive and instrumentation & flow transmitters etc.	Nos.	2		
2.1.6	Air receivers with accessories.	No.	2		
2.1.7	Pipes for mill reject conveying.	Lot	1		
2.1.8	Pipes for compressed air (instrument air and conveying air) & cooling water services, etc.	Lot	1		
2.1.9	Air & water line valves.	Lot	1		
2.1.10	Pneumatically operated knife gate valves for different application.	Nos.	32		
2.1.11	Alloy CI bends/ fittings/ laterals.	Lot	1		
2.1.12	Field instruments, cable glands & lugs, cable trays/ conduits (branch) as per specification requirement.	Lot	1		
2.1.13	Fixed type sump pumps along with all its control.	Nos.	2		
2.1.14	Maintenance tools & tackles (as per requirement of technical specification)	Lot	1		
2.1.15	Erection & commissioning spares including fill of lubricants & consumables.	Lot	1		
2.1.16	Any other item not indicated above, but required to make the system complete in all respects.	Lot	1		
	BREAK-UP OF SUPPLY PRICES GIVEN IN 3.1 OF MAIN SHEET.				
3.1	Break up of Prices inclusive of all prevailing taxes, duties and other levies for SUPPLY part for COAL BUNKER DEBLOCKING DEVICES 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 and consumables required for pre-commissioning, commissioning alongwith spares for erection,startup and commissioning as required, forwarding, proper packing, shipment and delivery at site 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		
3.1.1	Air Cannons for Raw Coal Bunkers with support/mounting brackets and accessories	Lot	1		

3.1.2	Local Control Panel/pneumatic panels/JBs with required Stainless steel impulse/pneumatic tubing, solenoid valves, filter-regulator-lubricator unit and accessories			Lot	1		
3.1.3	Air compressors with drive motor, integral micro-processor, instruments and all other accessories.			Nos	2		
3.1.4	Air receivers with drain traps, safety relief valve, instruments and all accessories.			Nos	2		
3.1.5	Piping, fittings, valves & instruments for air, cooling water for air compressor etc.			Lot	1		
3.1.6	Erection & commissioning spares including fill of lubricants & consumables.			Lot	1		
3.1.7	Maintenance tools & tackles.			Lot	1		
3.1.8	Any other item not indicated above, but required to make the system complete in all respects.			Lot	1		
Particulars of bidder / authorised representative							
Name	Designation	Signature		Date	Company Seal		
Note:							
1	In case of any variation in quantity during detailed engineering, same shall be adjusted as per above break-up of prices.						
2	Any other item not indicated above, but required to make the system complete in all respects, as per the technical specification, shall be supplied without any cost implication to BHEL.						
3	Any cell left blank in the unpriced schedule shall be treated as "Quoted" and is included in total price.						

SUGGESTED PRICE FORMAT ANNEXURE-II- LIST OF MANDATORY SPARES		Doc No:	PE-PF-445-160-A001
		Rev No:	0
		Date of issue	26.07.2021
NAME OF PROJECT:		SAGARDIGHI THERMAL POWER PROJECT, 1 X 660 MW UNIT NO 5, STAGE III.	
NAME OF PACKAGE:		MILL REJECT SYSTEM (PNEUMATIC TYPE)	
TECHNICAL SPECIFICATION:		PE-TS-445-160-A001	
S. No. *	Description	Quantity to be supplied for the package	Ex-works price (in Rs.)
	MECHANICAL SYSTEM		
1.32.00	Mill Reject Handling System		
1.32.01	Pneumatic Conveying System		
(i)	Pneumatic Main Valves	4 Sets of each type	
(ii)	Pneumatic/Solenoid Two/ Three Position Control Valve	4 Sets of each type	
(iii)	Plate/Dome (including seals) Valve with Actuator	4 Nos.	
(iv)	Plate/Dome valve seals	6 Sets	
1.32.02	Compressor	Applicable Spares as Sl. No. 6.05.00	
6.05.00	Compressed Air System		
6.05.01	Dry Air Intake Filter	5 Nos.	
6.05.02	Complete set of Loading- unloading valve assembly	2 Sets (one set means complete replacement for one compressor)	
6.05.03	Low Pressure Compressor element (Screw) with Drive end & Non-drive end Bearings for Male & Female Elements	2 Sets (one set means complete replacement for one compressor)	
6.05.04	High Pressure Compressor element (Screw) with Drive end & Non-drive end Bearings for Male & Female Elements	2 Sets (one set means complete replacement for one compressor)	
6.05.05	Plug for Inter cooler Tube Bunch	15 Nos	
6.05.06	Plug for After Cooler Tube Bunch	15 Nos	
6.05.07	Automatic Purge Drain Valve for Inter cooler and After cooler	2 Sets (one set means complete replacement for one compressor)	
6.05.08	Air Outlet Check Valve	2 Nos.	
6.05.09	Air Outlet Compensator	1Set (one set means complete replacement for one compressor)	
6.05.10	Lub oil filter	5Nos.	
6.05.11	Lub oil Pressure Regulating valve	1No.	
6.05.12	Different oil seals/O-ring for Lub oil system	4Sets (one set means complete replacement for one compressor)	
6.05.13	Cooling water Inlet and Outlet connection bellows	2Sets (one set means complete replacement for one compressor)	
6.05.14	Gear Box Unit Complete	1Set (one set means complete replacement for one compressor)	
6.05.15	Gear Box Component		
(i)	Different Oil Seals/O-ring	2Sets (one set means complete replacement for one compressor)	
(ii)	Set Of Bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Breathing Unit	2Nos	
6.05.16	Component of L.P Cylinder		
(i)	Gear sets	1Set (one set means complete replacement for one compressor)	
(ii)	Set of bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Mechanical Seal & O-ring	1Set (one set means complete replacement for one compressor)	
6.05.17	Component of HP Cylinder		
(i)	Gear sets	1Set (one set means complete replacement for one compressor)	
(ii)	Set of bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Mechanical Seal & O-ring	1Set (one set means complete replacement for one compressor)	
(iv)	Different Safety Valves	1Set (one set means complete replacement for one compressor)	
(v)	Coupling		
(a)	Complete Set of Coupling (Motor to Compressor)	1Set (one set means complete replacement for one compressor)	
(b)	Flexible Rubber for Coupling	4Nos.	

6.05.18	Drain Moisture Trap	2Sets (one set means complete replacement for one compressor)	
6.05.19	Safety Valve's Springs & Gasket for LP Stage	1Set (one set means complete replacement for one safety valve)	
6.05.20	Safety Valve's Springs & Gasket for HP Stage	1Set (one set means complete replacement for one safety valve)	
6.05.21	Oil Pump & Motor Complete Assembly	1Set	
6.05.22	Drive Motor	1No.	
6.05.23	Other Spares as applicable as per the Electrical List	Applicable Item & Quantity same as indicated in Electrical list Sl. No.7.08.00, 7.12.00 & 7.21.00	
6.05.24	Compressed Air Line Valves	As applicable as per Sl. No.5.05.02	
6.05.25	C&I Items		
(i)	PLC with MMI System	Applicable Item & Quantity same as indicated in C&I list Sl. No. 8.03.00	
(ii)	Field Instruments & Others as applicable as per the C&I List	Applicable Item & Quantity same as indicated in C&I list Sl. No. 8.04.00, 8.07.00 & 8.10.00	
6.05.26	Air Drying Plant (HOC Type)		
(i)	Pre-filter Elements	2Sets (one set means complete replacement for one drier filter)	
(ii)	After-filter Elements	2Sets (one set means complete replacement for one drier filter)	
1.32.03	Other Electrical Spares as applicable as per the Electrical List	Applicable Item & Quantity same as indicated in Electrical list Sl. No. 7.08.00, 7.13.00 & 7.21.00.	
7.08.00	415V System		
7.08.01	11/0.415KV Transformer (for Each make, type and rating of Transformer)		
(i)	Door Limit Switch complete set	1 set (1 set means total requirement for one Transformer)	
(ii)	Neutral CT	1 no of each type and rating	
(iii)	Temperature scanner	1 no.	
(iv)	bhy	3 No	
(v)	LV Bushing with metal parts, connectors and gaskets	3 No	
(vi)	LV neutral Bushing with metal parts, connectors and gaskets	1 No	
(vii)	Post Insulator	1 set (1 set means total requirement for one Transformer)	
(viii)	Limb of complete LT & HT of temperature sensing devices	1 Set (1 set means total requirement for one Transformer)	
7.08.02	415V Air Circuit Breaker (for Each make, type and rating of ACB)		
(i)	Trip Coil	20% of total nos. or minimum 5 nos whichever is higher for each type and rating used in each switchgear (PCC/PMCC/MCC/ACDB)	
(ii)	Closing Coil	20% of total nos. or minimum 5 nos whichever is higher for each type and rating used in each switchgear (PCC/PMCC/MCC/ACDB)	
(iii)	Spring Charging Motor	2 nos.	
(iv)	Spring Charging Motor with complete Mechanism	2 nos.	
(v)	Spring Charged Limit Switch	5 nos.	
(vi)	Thermal Overload for Spring Charging Motor	2 nos.	
(vii)	Main Contact (Fixed and moving) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(viii)	Arcing Contact (Fixed and moving) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(ix)	Breaker Jaw Contact (Bus-end & Breaker- end) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(x)	Sliding Contact (Fixed & Moving)	3 sets.	
(xi)	Breaker Auxiliary Contact Block	5 nos.	
(xii)	Arcing Chute	2 sets (1 set consists of 3 nos.) for each type and rating	
(xiii)	Plug Socket with Prefab cable	3 nos	
(xiv)	Position Limit Switch	5 sets	
7.08.03	415V PCC, PMCC, MCC, ACDB, DCDB, Elect. Control Panel (For each PCC, PMCC, MCC, ACDB, DCDB and Elect. Control Panel) (applicable items of PCC, PMCC, MCC, ACDB, DCDB and Elect. Control Panel shall be considered)		
(i)	Indicating Lamps complete assembly		

(a)	Red	3 nos of each make and type.	
(b)	Blue	3 nos of each make and type.	
(c)	Green	3 nos of each make and type.	
(d)	White	3 nos of each make and type.	
(e)	Amber	3 nos of each make and type.	
(ii)	CT	2 nos. for each make, type and Rating	
(iii)	Transducer	2 no for each make, type and Rating	
(iv)	Trip / Neutral / close Control Switch	2 nos. for each make, type and Rating	
(v)	Switch gear or MCC / Trial / Normal selector switch	2 nos. for each make, type and Rating	
(vi)	Local/Remote selector switch	2 nos. for each make, type and Rating	
(vii)	AC Supply On / Off Switch	1 no. for each make, type and Rating	
(viii)	DC Supply On / Off Switch	1 no. for each make, type and Rating	
(ix)	Motor Heater On /Off Switch	1 no. for each make, type and Rating	
(x)	DC Supply Source Selector Switch (3-position)	1 no. for each make, type and Rating	
(xi)	Ammeter Selector Switch	1 no. for each make, type and Rating	
(xii)	Voltmeter Selector Switch	1 no. for each make, type and Rating	
(xiii)	Voltmeter	2 no. for each make, type and Rating	
(xiv)	Ammeter	2 no. for each make, type and Rating	
(xv)	Auxiliary Control Contactor		
(a)	Auxiliary Control Contactor complete assembly	10% of total nos for each make, type and Rating.	
(b)	Auxiliary Control Contactor spare kits	10% of total nos. for each make, type and Rating.	
(c)	Auxiliary Control Contactor Coils	10% of total nos for each make, type and Rating.	
(xvi)	Power Contactor		
(a)	Power Contactor Complete Assembly	10% of total nos for each make, type and rating	
(b)	Power Contactor spare kits	10% of total nos for each make, type and Rating.	
(c)	Power Contactor Coils	10% of total nos for each make, type and Rating.	
(xvii)	MCCB	5% of total nos. for each make, type and rating.	
(xviii)	MCB	5% of total nos. for each make, type and rating.	
(xix)	Switch Fuse Unit (DC)	10% of total nos. for each make, type and rating.	
(xx)	Power Fuse	5% of total nos. for each make, type and rating.	
(xxi)	Control Fuse	5% of total nos. for each make, type and rating.	
(xxii)	Thermal Overload Relay	5% of total nos. for each make, type and rating.	
(xxii)	Sliding contact (Fixed and moving) Complete assembly	2 sets of each make, type and rating	
(xxiii)	Busbar to module Lira Contact assembly	2 sets of each make, type and rating (1 set means all 3 ph+ neutral)	
(xxiv)	Control and Aux. Transformer	1 no of each make, type and rating	
(xxv)	Delay Timer	2 no of each make, type and rating	
(xxvi)	Power Terminal Block	2 sets for each make, type and rating	
(xxvii)	Control Terminal Block	2 sets for each make, type and rating	
(xxviii)	End plate for Power and Control terminal block	2 sets for each make, type and rating	
(xxix)	Energy meter	1 no for each make, type and rating	
(xxx)	Relays (Other than numerical relay):		
(a)	Conventional (Electromagnetic/Static type) Relay	2 no for each make, type and rating	
(b)	Aux. relays & Lock out relays & TIMERS	2 nos for each make, type and rating	
(xxxi)	MCCB Status (On/off) Monitoring Switch/Contact	2 nos for each make, type and rating	
(xxxii)	Push Button (On/Off) Complete Assembly	2 nos for each make, type and rating	
(xxxiii)	Annunciation Facia with lamps complete set (if applicable)	1 set for each make, type and rating	
7.13.00	Actuator		
7.13.01	Complete set of Actuator	2Nos. for each type, make and rating, 1 no. for H2 cooler Temperature controller and 1 no. for stator water temperature controller	
7.13.02	Power Unit for Modulating Actuator	4Nos. of each type	
7.13.03	DC-DC Power Pack Unit	4Nos. of each type	
7.13.04	Electronic cards	4Nos. of each type	

7.13.05	Position Feed Back Transmitters	4Nos. of each type	
7.13.06	Control Unit	4Nos. of each type	
7.13.07	Limit Switch Assembly	2 Nos each type and rating	
7.13.08	Torque Switch Assembly	2 Nos each type and rating	
7.13.09	Power Contactor	5Nos. for each type and rating	
7.13.10	Auxiliary Contactor	5Nos. for each type and rating	
7.13.11	Thermal Over Load Relay	2Nos. for each type and rating	
7.13.12	Motor	1No. each type and rating	
7.13.13	Complete Seal kit	2Sets for each type and rating	
7.13.14	Complete O-Ring Set	2Sets for each type and rating	
7.21.00	Motor		
7.21.02	415 Volt Motor		
(i)	Motor of each type and rating (Note : motors covered in mechanical spare items need not to be included here again) 10% of the installed quantity or minimum 1 number whichever be higher	10% of the installed quantity or minimum 1 number whichever be higher	
(ii)	End Shield Cover Driving & Non-Driving End	1 set for each type and rating of Motor	
(iii)	Heaters	2 sets for each type and rating of motor	
(iv)	Bearings (DE and NDE) for each type and rating of motor	2 sets	
(v)	Cooling Fan for all type and rating of LT motors	One (1) set	
(vi)	Dust seals and gaskets for each type of motors	1 Set	
(vii)	Motor Terminal Block	1 no. for each type and rating of Motor	
(viii)	Complete Set of Coupling	1 set for each type and rating	
7.21.04	DC Motor		
(i)	Motor of each type and rating (Note : motors covered in mechanical spare items need not to be included here again)	10% of the installed quantity or minimum 1 number whichever be higher	
(ii)	Carbon brushes	2 sets for each type and rating of Motor	
(iii)	Brush assemblies	2 sets for each type and rating of Motor	
(iv)	Terminal blocks	1 set for each type and rating of Motor	
(v)	Heaters	1 set for each type and rating of Motor	
(vi)	Complete Set of Coupling	1 set for each type and rating of Motor	
(vii)	Bearings (DE and NDE) for each type and rating of motor	1 set for each type and rating of Motor	
(viii)	Cooling Fan	1 set for each type and rating of Motor	
1.32.05	Other C&I Spares as applicable as per the C&I List	Applicable Item & Quantity same as indicated in C&I list SI No.8.04.00 & 8.07.00	
8.04.00	Field Instrument		
8.04.01	Electronic Transmitters		
(i)	Pressure	1(One) no. complete set for each type and model/range used in the system	
(ii)	Differential Pressure	1(One) no. complete set for each type and model/range used in the system	
(iii)	Level	1(One) no. complete set for each type and model/range used in the system	
(iv)	Speed	1(One) no. complete set for each type and model/range used in the system	
(v)	FlowTransmitter	1(One) no. complete set for each type and model/range used in the system	
(vi)	3-D Ultrasonic level Transmitter	1(One) no. complete set for each type and model/range used in the system	
8.04.02	Different type of Switches		
(i)	Pressure Switch	2(two)no. of each type & model/range used in the system	
(ii)	Differential Pressure Switch	2(two)no. of each type & model/range used in the system	
(iii)	Level Switch	2(two)no. of each type & model/range used in the system	
(iv)	Flow Switch	2(two)no. of each type & model/range used in the system	
(v)	Temperature Switch	2(two)no. of each type & model/range used in the system	
(vi)	Dust Detector	1(one)no. of each type & model used in the system	
8.04.03	Thermocouple	10% of each type and length used in one unit	
8.04.04	RTD	10% of each type and length used in one unit	
8.04.05	Thermo-well for both TC and RTD	2(Two) nos. for each type and rating/length used in the system	

8.04.06	Solenoid Valve		
(i)	Complete Solenoid Valve Assembly	2Nos. for each type and rating used in the system	
(ii)	Coil (single or double coil type)	10% of total nos. used in the system or minimum 5(five) Nos. whichever is more for each type and rating.	
8.04.07	Different types of Gauge		
(i)	Pressure Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
(ii)	Differential Pressure Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
(iii)	Temperature Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
(iv)	Magnetic Level Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
8.04.08	Air Filter Regulator including moisture separator complete set with pressure gauges	10Nos.	
8.04.09	Rotameter	10% of total nos. used in the system or minimum 2(Two) nos. whichever is more for each type, rating,/model and size used in the system.	
8.04.10	Gauge Glass	1No. for each type and size	
8.04.11	Erection Hardware		
(i)	Transmitter's Manifold	10% of total nos. used in the system or minimum 2(Two) nos. whichever is more for each type, rating,/model and size used in the system.	
(ii)	Impulse Line Root/Source valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(iii)	Impulse Line Isolation valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(iv)	Impulse Line Drain valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(v)	Impulse Line fittings	Each type/size 25Nos.	
(vi)	Impulse Pipe	Each type/size 100Mtrs.	
(vii)	Copper/SS Tube	Each type/size 100Mtrs.	
(viii)	Fittings for Copper/SS Tube	Each type/size 100Nos.	
8.04.13	Conductivity Type Level Switch		
(i)	Conductivity Ttype level Probes	10% of total nos. used in the system or minimum 4(four) nos. whichever is more.	
(ii)	Complete Electronics unit	1Set	
(iii)	Isolating/Root Valve	2Nos.	
8.04.15	Cold Junction Compensation Boxes	10% of total nos. used in the system or minimum 2(two) nos. for each type/size whichever is more.	
8.04.16	Current/Voltage Transducers	1(one) no. each type/rating used in the system	
8.04.17	MWatt/MVAR Transducer	1(one) no. each type/rating used in the system	
8.04.18	Chlorine Leak Detector System		
(i)	Sensor Unit (complete)	2No.	
(ii)	Transmitter/Processing Unit (complete)	2No.	
8.07.00	Pneumatic Control Valve & Power Cylinder (Applicable for all Modulating Type & On-Off/Isolating Type)		
8.07.01	Control Valve		
(i)	Pneumatic Diaphragm for Diaphragm actuated valve	2(two) nos. for each type of Actuator	
(ii)	Actuator Seal Kit for Pneumatic Cylinder actuated valve	2(two) nos. for each type of Actuator	
(iii)	Gland Packing	1(one) set for each type of Control Valve	
(iv)	Stem	1(one) No. for each type of Control Valve	
(v)	Plug	1(one) No. for each type of Control Valve	

(vi)	Seat	1(one) No. for each type of Control Valve	
(vii)	Cage	1(one) No. for each type of Control Valve	
(viii)	Retainer Ring	1(one) set for each type of Control Valve	
(ix)	Seal Ring	1(one) set for each type of Control Valve	
(x)	Gasket	2(two) Sets. for each type of Control Valve	
(xi)	Smart Positioner of the Valve	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(xii)	Seal Kit for the Positioner	2(two) Sets. for each type of Positioner	
(xiii)	Position Feedback Transmitter (applicable if it is not integral with the Smart Positioner)	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(xiv)	Complete Set of Solenoid Valve for Pneumatic type On/Off Valve	2Nos. for each type & ratings	
(xv)	Solenoid Coil for Pneumatic type On/Off Valve	5Nos. for each type & ratings	
8.07.02	Power Cylinder		
(i)	Actuator Seal Kit	2(two) nos. for each type of Power Cylinder	
(ii)	Gasket	2(two) Sets. for each type of Power Cylinder	
(iii)	Complete Set of Power Cylinder	1(one) no. each type for all application	
(iv)	Smart Positioner of the Valve	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(v)	Seal Kit for the Positioner	2(two) Sets. for each type of Positioner	
(vi)	Position Feedback Transmitter (applicable if it is not integral with the Smart Positioner)	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(vii)	Complete Set of Solenoid Valve for Pneumatic type On/Off Power Cylinder	2Nos. for each type & ratings	
(viii)	Solenoid Coil for Pneumatic type On/Off Power Cylinder	5Nos. for each type & ratings	
(ix)	Position Limit Switch for Pneumatic type On/Off Power Cylinder	10Nos. for each type & ratings	
8.07.03	I/P Converter for Control Valve/Power Cylinder (if applicable)	10% of total quantity used in the system or minimum 5(five) nos. whichever is more for each type and model.	
8.07.04	Air Lock Relay	10Nos. for each type	
8.07.05	Signal Air Booster Unit	2Nos. for each type	
8.10.00	Control Panel And Local/Remote Control Desk		
8.10.01	Mosaic/Conventional Type Push button Station	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
8.10.02	Mosaic Type Push button Station with LED Indication	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
8.10.03	Mosaic Type LED Indication Station	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
8.10.04	Simaphore Indicator	2(two)Nos. each type	
8.10.05	Annunciation System		
(i)	Each type of PCB (for non-PLC driven system)	1(one) No. each	
(ii)	Lamp Box with Facia & Lamps (LED type)	10(ten)Nos.	
(iii)	Hooter	1(one) No.	
7.12.00	Control Panel/Desktop Mounted Items		
7.12.01	Push Button Complete assembly	10Nos for each colour	
7.12.02	Push Button Contact Element (1NO + 1NC) Block	20Nos.	
7.12.03	Selector Switch	10Nos. for each type and rating	
7.12.04	Meter (Analog and Digital)		
(i)	Ammeter	2Nos. for each type and range	
(ii)	Voltmeter	2Nos. for each type and range	
(iii)	Frequency	2Nos. for each type and range	
(iv)	MW	2Nos. for each type and range	
(v)	MVAR	2Nos. for each type and range	
(vi)	Power Factor	2Nos. for each type and range	
(vii)	Synchroscope	1No. for each type and range	
(viii)	Synchrocheck Relay complete set	1No. for each type and range	

(ix)	Transducer	1No. for each type and range	
7.12.05	Indicating Lamps complete assembly	20Nos. for each Colour and type	
7.12.06	Mimic Lamps	10Nos. for each Colour and type	
7.12.07	MCB	5Nos. for each type and rating	
7.12.08	Door Limit Switch	5Nos.	
7.12.09	Annunciation system		
(i)	Lamp Box with Facia & Lamps (LED type)	25Nos.	
(ii)	Hooter	1No.	
(iii)	Each type of PCB (for non-PLC driven system)	1(one) no.	
Note 1	Mandatory spares listed above are 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 bidder's scope of supply.		
Note 2	* Refer Volume II A, reference clause of Customer's specification.		

SUGGESTED PRICE FORMAT ANNEXURE-III- LIST OF MANDATORY SPARES		Doc No:	PE-PF-445-160-A001
		Rev No:	0
		Date of issue	26.07.2021
NAME OF PROJECT:		SAGARDIGHI THERMAL POWER PROJECT, 1 X 660 MW UNIT NO 5, STAGE III.	
NAME OF PACKAGE:		COAL BUNKER DEBLOCKING DEVICES	
TECHNICAL SPECIFICATION:		PE-TS-445-160-A001	
S. No.*	Description	Quantity to be supplied for the package	Ex-works price (in Rs.)
	MECHANICAL SYSTEM		
1.32.02	Compressor	Applicable Spares as Sl. No. 6.05.00	
6.05.00	Compressed Air System		
6.05.01	Dry Air Intake Filter	5 Nos.	
6.05.02	Complete set of Loading- unloading valve assembly	2 Sets (one set means complete replacement for one compressor)	
6.05.03	Low Pressure Compressor element (Screw) with Drive end & Non-drive end Bearings for Male & Female Elements	2 Sets (one set means complete replacement for one compressor)	
6.05.04	High Pressure Compressor element (Screw) with Drive end & Non-drive end Bearings for Male & Female Elements	2 Sets (one set means complete replacement for one compressor)	
6.05.05	Plug for Inter cooler Tube Bunch	15 Nos	
6.05.06	Plug for After Cooler Tube Bunch	15 Nos	
6.05.07	Automatic Purge Drain Valve for Inter cooler and After cooler	2 Sets (one set means complete replacement for one compressor)	
6.05.08	Air Outlet Check Valve	2 Nos.	
6.05.09	Air Outlet Compensator	1Set (one set means complete replacement for one compressor)	
6.05.10	Lub oil filter	5Nos.	
6.05.11	Lub oil Pressure Regulating valve	1No.	
6.05.12	Different oil seals/O-ring for Lub oil system	4Sets (one set means complete replacement for one compressor)	
6.05.13	Cooling water Inlet and Outlet connection bellows	2Sets (one set means complete replacement for one compressor)	
6.05.14	Gear Box Unit Complete	1Set (one set means complete replacement for one compressor)	
6.05.15	Gear Box Component		
(i)	Different Oil Seals/O-ring	2Sets (one set means complete replacement for one compressor)	
(ii)	Set Of Bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Breathing Unit	2Nos	
6.05.16	Component of L.P Cylinder		
(i)	Gear sets	1Set (one set means complete replacement for one compressor)	
(ii)	Set of bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Mechanical Seal & O-ring	1Set (one set means complete replacement for one compressor)	
6.05.17	Component of HP Cylinder		
(i)	Gear sets	1Set (one set means complete replacement for one compressor)	
(ii)	Set of bearings	1Set (one set means complete replacement for one compressor)	
(iii)	Mechanical Seal & O-ring	1Set (one set means complete replacement for one compressor)	
(iv)	Different Safety Valves	1Set (one set means complete replacement for one compressor)	
(v)	Coupling		
(a)	Complete Set of Coupling (Motor to Compressor)	1Set (one set means complete replacement for one compressor)	
(b)	Flexible Rubber for Coupling	4Nos.	
6.05.18	Drain Moisture Trap	2Sets (one set means complete replacement for one compressor)	
6.05.19	Safety Valve's Springs & Gasket for LP Stage	1Set (one set means complete replacement for one safety valve)	
6.05.20	Safety Valve's Springs & Gasket for HP Stage	1Set (one set means complete replacement for one safety valve)	
6.05.21	Oil Pump & Motor Complete Assembly	1Set	

6.05.22	Drive Motor	1No.	
6.05.23	Other Spares as applicable as per the Electrical List	Applicable Item & Quantity same as indicated in Electrical list Sl. No.7.08.00, 7.12.00 & 7.21.00	
6.05.24	Compressed Air Line Valves	As applicable as per Sl. No.5.05.02	
6.05.25	C&I Items		
(i)	PLC with MMI System	Applicable Item & Quantity same as indicated in C&I list Sl. No. 8.03.00	
(ii)	Field Instruments & Others as applicable as per the C&I List	Applicable Item & Quantity same as indicated in C&I list Sl. No. 8.04.00, 8.07.00 & 8.10.00	
6.05.26	Air Drying Plant (HOC Type)		
(i)	Pre-filter Elements	2Sets (one set means complete replacement for one drier filter)	
(ii)	After-filter Elements	2Sets (one set means complete replacement for one drier filter)	
1.32.03	Other Electrical Spares as applicable as per the Electrical List	Applicable Item & Quantity same as indicated in Electrical list Sl. No. 7.08.00, 7.13.00 & 7.21.00.	
7.08.00	415V System		
7.08.01	11/0.415KV Transformer (for Each make, type and rating of Transformer)		
(i)	Door Limit Switch complete set	1 set (1 set means total requirement for one Transformer)	
(ii)	Neutral CT	1 no of each type and rating	
(iii)	Temperature scanner	1 no.	
(iv)	bhy	3 No	
(v)	LV Bushing with metal parts, connectors and gaskets	3 No	
(vi)	LV neutral Bushing with metal parts, connectors and gaskets	1 No	
(vii)	Post Insulator	1 set (1 set means total requirement for one Transformer)	
(viii)	Limb of complete LT & HT of temperature sensing devices	1 Set (1 set means total requirement for one Transformer)	
7.08.02	415V Air Circuit Breaker (for Each make, type and rating of ACB)		
(i)	Trip Coil	20% of total nos. or minimum 5 nos whichever is higher for each type and rating used in each switchgear (PCC/PMCC/MCC/ACDB)	
(ii)	Closing Coil	20% of total nos. or minimum 5 nos whichever is higher for each type and rating used in each switchgear (PCC/PMCC/MCC/ACDB)	
(iii)	Spring Charging Motor	2 nos.	
(iv)	Spring Charging Motor with complete Mechanism	2 nos.	
(v)	Spring Charged Limit Switch	5 nos.	
(vi)	Thermal Overload for Spring Charging Motor	2 nos.	
(vii)	Main Contact (Fixed and moving) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(viii)	Arcing Contact (Fixed and moving) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(ix)	Breaker Jaw Contact (Bus-end & Breaker- end) assembly	5 sets (1 set consists of 3 nos.) for each type and rating	
(x)	Sliding Contact (Fixed & Moving)	3 sets.	
(xi)	Breaker Auxiliary Contact Block	5 nos.	
(xii)	Arcing Chute	2 sets (1 set consists of 3 nos.) for each type and rating	
(xiii)	Plug Socket with Prefab cable	3 nos	
(xiv)	Position Limit Switch	5 sets	
7.08.03	415V PCC, PMCC, MCC, ACDB, DCDB, Elect. Control Panel (For each PCC, PMCC, MCC, ACDB, DCDB and Elect. Control Panel) (applicable items of PCC, PMCC, MCC, ACDB, DCDB and Elect. Control Panel shall be considered)		
(i)	Indicating Lamps complete assembly		
(a)	Red	3 nos of each make and type.	
(b)	Blue	3 nos of each make and type.	
(c)	Green	3 nos of each make and type.	
(d)	White	3 nos of each make and type.	
(e)	Amber	3 nos of each make and type.	
(ii)	CT	2 nos. for each make, type and Rating	
(iii)	Transducer	2 no for each make, type and Rating	
(iv)	Trip / Neutral / close Control Switch	2 nos. for each make, type and Rating	

(v)	Switch gear or MCC / Trial / Normal selector switch	2 nos. for each make, type and Rating	
(vi)	Local/Remote selector switch	2 nos. for each make, type and Rating	
(vii)	AC Supply On / Off Switch	1 no. for each make, type and Rating	
(viii)	DC Supply On / Off Switch	1 no. for each make, type and Rating	
(ix)	Motor Heater On /Off Switch	1 no. for each make, type and Rating	
(x)	DC Supply Source Selector Switch (3-position)	1 no. for each make, type and Rating	
(xi)	Ammeter Selector Switch	1 no. for each make, type and Rating	
(xii)	Voltmeter Selector Switch	1 no. for each make, type and Rating	
(xiii)	Voltmeter	2 no. for each make, type and Rating	
(xiv)	Ammeter	2 no. for each make, type and Rating	
(xv)	Auxiliary Control Contactor		
(a)	Auxiliary Control Contactor complete assembly	10% of total nos for each make, type and Rating.	
(b)	Auxiliary Control Contactor spare kits	10% of total nos. for each make, type and Rating.	
(c)	Auxiliary Control Contactor Coils	10% of total nos for each make, type and Rating.	
(xvi)	Power Contactor		
(a)	Power Contactor Complete Assembly	10% of total nos for each make, type and rating	
(b)	Power Contactor spare kits	10% of total nos for each make, type and Rating.	
(c)	Power Contactor Coils	10% of total nos for each make, type and Rating.	
(xvii)	MCCB	5% of total nos. for each make, type and rating.	
(xviii)	MCB	5% of total nos. for each make, type and rating.	
(xix)	Switch Fuse Unit (DC)	10% of total nos. for each make, type and rating.	
(xx)	Power Fuse	5% of total nos. for each make, type and rating.	
(xxi)	Control Fuse	5% of total nos. for each make, type and rating.	
(xxii)	Thermal Overload Relay	5% of total nos. for each make, type and rating.	
(xxii)	Sliding contact (Fixed and moving) Complete assembly	2 sets of each make, type and rating	
(xxiii)	Busbar to module Lira Contact assembly	2 sets of each make, type and rating (1 set means all 3 ph+ neutral)	
(xxiv)	Control and Aux. Transformer	1 no of each make, type and rating	
(xxv)	Delay Timer	2 no of each make, type and rating	
(xxvi)	Power Terminal Block	2 sets for each make, type and rating	
(xxvii)	Control Terminal Block	2 sets for each make, type and rating	
(xxviii)	End plate for Power and Control terminal block	2 sets for each make, type and rating	
(xxix)	Energy meter	1 no for each make, type and rating	
(xxx)	Relays (Other than numerical relay):		
(a)	Conventional (Electromagnetic/Static type) Relay	2 no for each make, type and rating	
(b)	Aux. relays & Lock out relays & TIMERS	2 nos for each make, type and rating	
(xxxi)	MCCB Status (On/off) Monitoring Switch/Contact	2 nos for each make, type and rating	
(xxxii)	Push Button (On/Off) Complete Assembly	2 nos for each make, type and rating	
(xxxiii)	Annunciation Facia with lamps complete set (if applicable)	1 set for each make, type and rating	
7.13.00	Actuator		
7.13.01	Complete set of Actuator	2Nos. for each type, make and rating, 1 no. for H2 cooler Temperature controller and 1 no. for stator water temperature controller	
7.13.02	Power Unit for Modulating Actuator	4Nos. of each type	
7.13.03	DC-DC Power Pack Unit	4Nos. of each type	
7.13.04	Electronic cards	4Nos. of each type	
7.13.05	Position Feed Back Transmitters	4Nos. of each type	
7.13.06	Control Unit	4Nos. of each type	
7.13.07	Limit Switch Assembly	2 Nos each type and rating	
7.13.08	Torque Switch Assembly	2 Nos each type and rating	
7.13.09	Power Contactor	5Nos. for each type and rating	
7.13.10	Auxiliary Contactor	5Nos. for each type and rating	
7.13.11	Thermal Over Load Relay	2Nos. for each type and rating	
7.13.12	Motor	1No. each type and rating	
7.13.13	Complete Seal kit	2Sets for each type and rating	
7.13.14	Complete O-Ring Set	2Sets for each type and rating	

7.21.00	Motor		
7.21.02	415 Volt Motor		
(i)	Motor of each type and rating (Note : motors covered in mechanical spare items need not to be included here again) 10% of the installed quantity or minimum 1 number whichever be higher	10% of the installed quantity or minimum 1 number whichever be higher	
(ii)	End Shield Cover Driving & Non-Driving End	1 set for each type and rating of Motor	
(iii)	Heaters	2 sets for each type and rating of motor	
(iv)	Bearings (DE and NDE) for each type and rating of motor	2 sets	
(v)	Cooling Fan for all type and rating of LT motors	One (1) set	
(vi)	Dust seals and gaskets for each type of motors	1 Set	
(vii)	Motor Terminal Block	1 no. for each type and rating of Motor	
(viii)	Complete Set of Coupling	1 set for each type and rating	
7.21.04	DC Motor		
(i)	Motor of each type and rating (Note : motors covered in mechanical spare items need not to be included here again)	10% of the installed quantity or minimum 1 number whichever be higher	
(ii)	Carbon brushes	2 sets for each type and rating of Motor	
(iii)	Brush assemblies	2 sets for each type and rating of Motor	
(iv)	Terminal blocks	1 set for each type and rating of Motor	
(v)	Heaters	1 set for each type and rating of Motor	
(vi)	Complete Set of Coupling	1 set for each type and rating of Motor	
(vii)	Bearings (DE and NDE) for each type and rating of motor	1 set for each type and rating of Motor	
(viii)	Cooling Fan	1 set for each type and rating of Motor	
1.32.05	Other C&I Spares as applicable as per the C&I List	Applicable Item & Quantity same as indicated in C&I list SI No.8.04.00 & 8.07.00	
8.04.00	Field Instrument		
8.04.01	Electronic Transmitters		
(i)	Pressure	1(One) no. complete set for each type and model/range used in the system	
(ii)	Differential Pressure	1(One) no. complete set for each type and model/range used in the system	
(iii)	Level	1(One) no. complete set for each type and model/range used in the system	
(iv)	Speed	1(One) no. complete set for each type and model/range used in the system	
(v)	FlowTransmitter	1(One) no. complete set for each type and model/range used in the system	
(vi)	3-D Ultrasonic level Transmitter	1(One) no. complete set for each type and model/range used in the system	
8.04.02	Different type of Switches		
(i)	Pressure Switch	2(two)no. of each type & model/range used in the system	
(ii)	Differential Pressure Switch	2(two)no. of each type & model/range used in the system	
(iii)	Level Switch	2(two)no. of each type & model/range used in the system	
(iv)	Flow Switch	2(two)no. of each type & model/range used in the system	
(v)	Temperature Switch	2(two)no. of each type & model/range used in the system	
(vi)	Dust Detector	1(one)no. of each type & model used in the system	
8.04.03	Thermocouple	10% of each type and length used in one unit	
8.04.04	RTD	10% of each type and length used in one unit	
8.04.05	Thermo-well for both TC and RTD	2(Two) nos. for each type and rating/length used in the system	
8.04.06	Solenoid Valve		
(i)	Complete Solenoid Valve Assembly	2Nos. for each type and rating used in the system	
(ii)	Coil (single or double coil type)	10% of total nos. used in the system or minimum 5(five) Nos. whichever is more for each type and rating.	
8.04.07	Different types of Gauge		
(i)	Pressure Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
(ii)	Differential Pressure Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	

(iii)	Temperature Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
(iv)	Magnetic Level Gauge	10% of total nos. used in the system or minimum 1(one) no. whichever is more for each type and range.	
8.04.08	Air Filter Regulator including moisture separator complete set with pressure gauges	10Nos.	
8.04.09	Rotameter	10% of total nos. used in the system or minimum 2(Two) nos. whichever is more for each type, rating,/model and size used in the system.	
8.04.10	Gauge Glass	1No. for each type and size	
8.04.11	Erection Hardware		
(i)	Transmitter's Manifold	10% of total nos. used in the system or minimum 2(Two) nos. whichever is more for each type, rating,/model and size used in the system.	
(ii)	Impulse Line Root/Source valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(iii)	Impulse Line Isolation valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(iv)	Impulse Line Drain valve	10% of total nos. used in the system or minimum 4(four) nos. whichever is more for each type, rating,/model and size used in the system.	
(v)	Impulse Line fittings	Each type/size 25Nos.	
(vi)	Impulse Pipe	Each type/size 100Mtrs.	
(vii)	Copper/SS Tube	Each type/size 100Mtrs.	
(viii)	Fittings for Copper/SS Tube	Each type/size 100Nos.	
8.04.13	Conductivity Type Level Switch		
(i)	Conductivity Ttype level Probes	10% of total nos. used in the system or minimum 4(four) nos. whichever is more.	
(ii)	Complete Electronics unit	1Set	
(iii)	Isolating/Root Valve	2Nos.	
8.04.15	Cold Junction Compensation Boxes	10% of total nos. used in the system or minimum 2(two) nos. for each type/size whichever is more.	
8.04.16	Current/Voltage Transducers	1(one) no. each type/rating used in the system	
8.04.17	MWatt/MVAR Transducer	1(one) no. each type/rating used in the system	
8.04.18	Chlorine Leak Detector System		
(i)	Sensor Unit (complete)	2No.	
(ii)	Transmitter/Processing Unit (complete)	2No.	
8.07.00	Pneumatic Control Valve & Power Cylinder (Applicable for all Modulating Type & On-Off/Isolating Type)		
8.07.01	Control Valve		
(i)	Pneumatic Diaphragm for Diaphragm actuated valve	2(two) nos. for each type of Actuator	
(ii)	Actuator Seal Kit for Pneumatic Cylinder actuated valve	2(two) nos. for each type of Actuator	
(iii)	Gland Packing	1(one) set for each type of Control Valve	
(iv)	Stem	1(one) No. for each type of Control Valve	
(v)	Plug	1(one) No. for each type of Control Valve	
(vi)	Seat	1(one) No. for each type of Control Valve	
(vii)	Cage	1(one) No. for each type of Control Valve	
(viii)	Retainer Ring	1(one) set for each type of Control Valve	
(ix)	Seal Ring	1(one) set for each type of Control Valve	
(x)	Gasket	2(two) Sets. for each type of Control Valve	
(xi)	Smart Positioner of the Valve	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(xii)	Seal Kit for the Positioner	2(two) Sets. for each type of Positioner	
(xiii)	Position Feedback Transmitter (applicable if it is not integral with the Smart Positioner)	10% of total quantity used in the system or minimum 2(two) nos. whichever is more for each type and model.	
(xiv)	Complete Set of Solenoid Valve for Pneumatic type On/Off Valve	2Nos. for each type & ratings	