

SUGGESTED PRICE FORMAT				Doc No:	PE-PF-466-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:		KORBA-I, II & III (3X200MW + 3X500MW + 1X500 MW) FGD			
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM			
TECHNICAL SPECIFICATION:		PE-TS-466-555-A001			
S. No.	DESCRIPTION	HSN / SAC CODE	UNIT	QTY	)
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part including 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 (as applicable), fill of lubricants & consumables, mandatory spares along with spares for erection, start up 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, preparation of layout drawings and carrying out Performance guarantee tests at site, training of customer/client and 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, amendment & agreements till placement of order.	8414 40 30	Lot	1	
2.0	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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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)	8414 40 30	Lot	1	
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of 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 (if applicable) 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.	998732	Lot	1	
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)	8414 90 90	Lot	1	
Note: 1.) PG 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-466-555-A001
		Rev No:	0
		Date of issue	22.01.20
NAME OF PROJECT:		KORBA-I, II & III (3X200MW + 3X500MW + 1X500 MW) FGD	
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:		PE-TS-466-555-A001	
S. No.	DESCRIPTION	UNIT	QTY
BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.			
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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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
Break up prices for items covered in clause 2.1 above.			
2.1.1	Air Compressors (Oil Free Screw type) each of minimum 15 NM3/Min capacity @ 8.5 kg/cm2 (min.) discharge pressure with suction filter with silencer, inter cooler and after cooler with moisture separators, automatic drain traps, instruments, control system, cable lugs, glands and other accessories including electric motor drive.	Nos.	2
2.1.2	Air Drying Plants Heat of compression (HOC) Rotary type/ Twin Tower Type of min. 15 NM3/min. capacity for Instrument Air Compressor with all instruments, control panels and other accessories as specified.	Nos.	2
2.1.3	Air Receivers required for Compressed Air System of minimum 02 Cu.M capacity each with instruments, relief valve, isolation valve, drain connection with automatic trap stations (zero purge air loss type) and other accessories as specified.	Nos.	2
2.1.4	Inter connecting cooling water, drain piping and compressed air piping as specified including fittings and valves etc. for complete Compressed air system.	Lot	1
2.1.5	Field instruments, junction box, Tools & Tackles, Commissioning spares etc. for complete Compressed air system.	Lot	1
Note: 1.) PG to consider and suitably incorporate taxes, duties and other commercial aspects.			
Particulars of bidder / authorised representative			
Name	Designation	Signature	Date
			Company Seal

SUGGESTED PRICE FORMAT ANNEXURE-II LIST OF MANDATORY SPARES				Doc No:	PE-PF-466-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:				KORBA-I, II & III (3X200MW + 3X500MW + 1X500 MW) FGD	
NAME OF PACKAGE:				COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:				PE-TS-466-555-A001	
S. No.	DESCRIPTION	UNIT	QTY		
1.0	Oil free Screw Air Compressor				
1.1	H. P. Stage Complete HP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.2	L. P. Stage Complete LP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.3	Motor Bearings	2 Sets			
1.4	LP stage Gear and Pinion	1 Set			
1.5	HP stage Gear and Pinion	1 Set			
1.6	Air Intake Filter Element With Gaskets	4 Sets			
1.7	Oil Filter Element With Gaskets & Seals	4 Sets			
1.8	Safety Valve Springs and Gaskets for HP stage	1 Set			
1.9	Safety Valve Springs and Gaskets for LP stage	1 Set			
1.10	Valves (within the compressor house with actuators)	2 nos of each type/ ratings/ size.			
1.11	Oil Pump/Motor				
1.11.1	Oil Pump and Motor complete assembly	1 Set			
1.11.2	Pump impeller/rotor with shaft	1 Set			
1.11.3	Set of bearings	2 Set			
1.11.4	Set of Seals	2 Set			
1.12	Drain / Moisture Trap	2 Set of each type/size.			
1.13	Oil Cooler Gaskets & Seals	2 sets			
2.0	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM (As applicable)				
2.1	Pre filter element(Ceramic candle or as applicable)	2 sets			
2.2	After filter element(Ceramic candle or as applicable)	2 sets			
2.3	Heater element(if applicable)	1 sets			
2.4	Blower bearing(if applicable)	1 sets			
2.5	Blower motor bearing(if applicable)	2 sets			
2.6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets			
2.7	Heater coil for temperature stabilization (for HOC type)(as applicable)	2 sets			
3.3	Rotary drum type Air drying plant for Instrument Air system (As applicable)				
3.3.1	Drive assembly consisting of motor, gear boxes, drive shaft & coupling	1 set			
3.4	Motor for air compressor	1 no.			
3.5	MEASURING INSTRUMENTS				
	1 Electronic Transmitters				
(i)	Transmitters of all types, ranges and model no. (for the measurement of Pressure, differential pressure flow, level, etc.)	10% or 1 No. of each type and model, whichever is more			

2 Temperature elements			
(i)	RTD's * of each type and length	10% or 2 Nos. of each type and length Which ever is more	
ii)	Thermocouples of each type like K-type, R-type, metal etc. and length *	10% or 2 Nos. of each type and length Which ever is more	
(iii)	Thermowell for application like mill outlet temperature and SH/RH/Eco/ true gas temp. in furnace	10% or 2 Nos. of each type and length Which ever is more	
(iv)	Temperature transmitters	10% of each type and length whichever is more	
3	Local Indicators like temperature gauges, pressure gauges, differential pressure gauges, flow gauges flow meters etc.,	5% or 1 No. of each make, model and type whichever is more (to be divided to various ranges in proportion to main of all make,	
4	Process Actuated Switch Devices Includes all types of Pressure, differential pressure, flow, temperature, differential temperature, level switch Devices	5% or 1 No. of each type and model whichever is more	
5	Dew Point meters	5% or 1 No. of each type and model whichever is more	
3.6 MICROPROCESSOR BASED/PLC BASED CONTROL/ ELECTRONIC BASED CONTROL PANEL (IF APPLICABLE)			
1	Fully programmed controller of electronic modules of each type (as applicable)	10% or 1 no. whichever is more	
2	Power supply module (if applicable)	10% or 1 no. whichever is more	

NOTE:

1	Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
2	Any fraction of a item shall mean the next higher integer.
3	Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
4	Wherever the quantities have been indicated for each type, size, thickness, material, radius, range etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
5	In case spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.

Particulars of bidder / authorised representative

Name	Designation	Signature & company seal	Date

SUGGESTED PRICE FORMAT				Doc No:	PE-PF-468-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:		2 X 250 MW BHILAI FGD			
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM			
TECHNICAL SPECIFICATION:		PE-TS-468-555-A001			
S. No.	DESCRIPTION	HSN / SAC CODE	UNIT	QTY	
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part including 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 (as applicable), fill of lubricants & consumables, mandatory spares along with spares for erection, start up 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, preparation of layout drawings and carrying out Performance guarantee tests at site, training of customer/client and 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, amendment & agreements till placement of order.	8414 40 30	Lot	1	
2.0	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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preparation of layout drawings 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)	8414 40 30	Lot	1	
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of 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 (if applicable) 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.	998732	Lot	1	
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)	8414 90 90	Lot	1	
Note: 1.) PG 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-468-555-A001
		Rev No:	0
		Date of issue	22.01.20
NAME OF PROJECT:		2 X 250 MW BHILAI FGD	
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:		PE-TS-468-555-A001	
S. No.	DESCRIPTION	UNIT	QTY
	BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.		
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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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
	Break up prices for items covered in clause 2.1 above.		
2.1.1	Air Compressors (Oil Free Screw type) each of minimum 15 NM3/Min capacity @ 8.5 kg/cm2 (min.) discharge pressure with suction filter with silencer, inter cooler and after cooler with moisture separators, automatic drain traps, instruments, control system, cable lugs, glands and other accessories including electric motor drive.	Nos.	2
2.1.2	Air Drying Plants Heat of compression (HOC) Rotary type/ Twin Tower Type of min. 15 NM3/min. capacity for Instrument Air Compressor with all instruments, control panels and other accessories as specified.	Nos.	2
2.1.3	Air Receivers required for Compressed Air System of minimum 02 Cu.M capacity each with instruments, relief valve, isolation valve, drain connection with automatic trap stations (zero purge air loss type) and other accessories as specified.	Nos.	2
2.1.4	Inter connecting cooling water, drain piping and compressed air piping as specified including fittings and valves etc. for complete Compressed air system.	Lot	1
2.1.5	Field instruments, junction box, Tools & Tackles, Commissioning spares etc. for complete Compressed air system.	Lot	1
Note: 1.) PG to consider and suitably incorporate taxes, duties and other commercial aspects.			
Particulars of bidder / authorised representative			
Name	Designation	Signature	Date
			Company Seal

SUGGESTED PRICE FORMAT ANNEXURE-II LIST OF MANDATORY SPARES				Doc No:	PE-PF-468-555-A001	
				Rev No:	0	
				Date of issue	22.01.20	
NAME OF PROJECT:				2 X 250 MW BHILAI FGD		
NAME OF PACKAGE:				COMPRESSED AIR SYSTEM		
TECHNICAL SPECIFICATION:				PE-TS-468-555-A001		
S. No.	DESCRIPTION	UNIT	QTY			
1.0	Oil free Screw Air Compressor					
1.1	H. P. Stage Complete HP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating				
1.2	L. P. Stage Complete LP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating				
1.3	Motor Bearings	2 Sets				
1.4	LP stage Gear and Pinion	1 Set				
1.5	HP stage Gear and Pinion	1 Set				
1.6	Air Intake Filter Element With Gaskets	4 Sets				
1.7	Oil Filter Element With Gaskets & Seals	4 Sets				
1.8	Safety Valve Springs and Gaskets for HP stage	1 Set				
1.9	Safety Valve Springs and Gaskets for LP stage	1 Set				
1.10	Valves (within the compressor house with actuators)	2 nos of each type/ ratings/ size.				
1.11	Oil Pump/Motor					
1.11.1	Oil Pump and Motor complete assembly	1 Set				
1.11.2	Pump impeller/rotor with shaft	1 Set				
1.11.3	Set of bearings	2 Set				
1.11.4	Set of Seals	2 Set				
1.12	Drain / Moisture Trap	2 Set of each type/size.				
1.13	Oil Cooler Gaskets & Seals	2 sets				
2.0	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM (As applicable)					
2.1	Pre filter element(Ceramic candle or as applicable)	2 sets				
2.2	After filter element(Ceramic candle or as applicable)	2 sets				
2.3	Heater element(if applicable)	1 sets				
2.4	Blower bearing(if applicable)	1 sets				
2.5	Blower motor bearing(if applicable)	2 sets				
2.6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets				
2.7	Heater coil for temperature stabilization (for HOC type)(as applicable)	2 sets				
3.3	Rotary drum type Air drying plant for Instrument Air system (As applicable)					
3.3.1	Drive assembly consisting of motor, gear boxes, drive shaft & coupling	1 set				
3.4	Motor for air compressor	1 no.				
3.5	MEASURING INSTRUMENTS					
	1 Electronic Transmitters					
(i)	Transmitters of all types, ranges and model no. (for the measurement of Pressure, differential pressure flow, level, etc.)	10% or 1 No. of each type and model, whichever is more				

2 Temperature elements			
(i)	RTD's * of each type and length	10% or 2 Nos. of each type and length Which ever is more	
ii)	Thermocouples of each type like K-type, R-type, metal etc. and length *	10% or 2 Nos. of each type and length Which ever is more	
(iii)	Thermowell for application like mill outlet temperature and SH/RH/Eco/ true gas temp. in furnace	10% or 2 Nos. of each type and length Which ever is more	
(iv)	Temperature transmitters	10% of each type and length whichever is more	
3	Local indicators like temperature gauges, pressure gauges, differential pressure gauges, flow gauges flow meters etc.,	5% or 1 No. of each make, model and type whichever is more (to be divided to various ranges in proportion to main of all make,	
4	Process Actuated Switch Devices Includes all types of Pressure, differential pressure, flow, temperature, differential temperature, level switch Devices	5% or 1 No. of each type and model whichever is more	
5	Dew Point meters	5% or 1 No. of each type and model whichever is more	
3.6 MICROPROCESSOR BASED/PLC BASED CONTROL/ ELECTRONIC BASED CONTROL PANEL (IF APPLICABLE)			
1	Fully programmed controller of electronic modules of each type (as applicable)	10% or 1 no. whichever is more	
2	Power supply module (if applicable)	10% or 1 no. whichever is more	

NOTE:

1	Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
2	Any fraction of a item shall mean the next higher integer.
3	Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
4	Wherever the quantities have been indicated for each type, size, thickness, material, radius, range etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
5	In case spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.

Particulars of bidder / authorised representative

Name	Designation	Signature & company seal	Date

SUGGESTED PRICE FORMAT			Doc No:	PE-PF-457-555-A001	
			Rev No:	0	
			Date of issue	22.01.20	
NAME OF PROJECT:			3 X 660 MW NABINAGAR FGD		
NAME OF PACKAGE:			COMPRESSED AIR SYSTEM		
TECHNICAL SPECIFICATION:			PE-TS-457-555-A001		
S. No.	DESCRIPTION	HSN / SAC CODE	UNIT	QTY	
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part including 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 (as applicable), fill of lubricants & consumables, mandatory spares along with spares for erection, start up 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, preparation of layout drawings and carrying out Performance guarantee tests at site, training of customer/client and 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, amendment & agreements till placement of order.	8414 40 30	Lot	1	
2.0	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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preparation of layout drawings 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)	8414 40 30	Lot	1	
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of 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 (if applicable) 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.	998732	Lot	1	
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)	8414 90 90	Lot	1	
Note: 1.) PG 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-457-555-A001
		Rev No:	0
		Date of issue	22.01.20
NAME OF PROJECT:		3 X 660 MW NABINAGAR FGD	
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:		PE-TS-457-555-A001	
S. No.	DESCRIPTION	UNIT	QTY
	BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.		
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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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
	Break up prices for items covered in clause 2.1 above.		
2.1.1	Air Compressors (Oil Free Screw type) each of minimum 15 NM3/Min capacity @ 8.5 kg/cm2 (min.) discharge pressure with suction filter with silencer, inter cooler and after cooler with moisture separators, automatic drain traps, instruments, control system, cable lugs, glands and other accessories including electric motor drive.	Nos.	2
2.1.2	Air Drying Plants Heat of compression (HOC) Rotary type/ Twin Tower Type of min. 15 NM3/min. capacity for Instrument Air Compressor with all instruments, control panels and other accessories as specified.	Nos.	2
2.1.3	Air Receivers required for Compressed Air System of minimum 02 Cu.M capacity each with instruments, relief valve, isolation valve, drain connection with automatic trap stations (zero purge air loss type) and other accessories as specified.	Nos.	2
2.1.4	Inter connecting cooling water, drain piping and compressed air piping as specified including fittings and valves etc. for complete Compressed air system.	Lot	1
2.1.5	Field instruments, junction box, Tools & Tackles, Commissioning spares etc. for complete Compressed air system.	Lot	1
Note: 1.) PG to consider and suitably incorporate taxes, duties and other commercial aspects.			
Particulars of bidder / authorised representative			
Name	Designation	Signature	Date
			Company Seal

SUGGESTED PRICE FORMAT ANNEXURE-II LIST OF MANDATORY SPARES				Doc No:	PE-PF-457-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:				3 X 660 MW NABINAGAR FGD	
NAME OF PACKAGE:				COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:				PE-TS-457-555-A001	
S. No.	DESCRIPTION	UNIT	QTY		
1.0	Oil free Screw Air Compressor				
1.1	H. P. Stage Complete HP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.2	L. P. Stage Complete LP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.3	Motor Bearings	2 Sets			
1.4	LP stage Gear and Pinion	1 Set			
1.5	HP stage Gear and Pinion	1 Set			
1.6	Air Intake Filter Element With Gaskets	4 Sets			
1.7	Oil Filter Element With Gaskets & Seals	4 Sets			
1.8	Safety Valve Springs and Gaskets for HP stage	1 Set			
1.9	Safety Valve Springs and Gaskets for LP stage	1 Set			
1.10	Valves (within the compressor house with actuators)	2 nos of each type/ ratings/ size.			
1.11	Oil Pump/Motor				
1.11.1	Oil Pump and Motor complete assembly	1 Set			
1.11.2	Pump impeller/rotor with shaft	1 Set			
1.11.3	Set of bearings	2 Set			
1.11.4	Set of Seals	2 Set			
1.12	Drain / Moisture Trap	2 Set of each type/size.			
1.13	Oil Cooler Gaskets & Seals	2 sets			
2.0	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM (As applicable)				
2.1	Pre filter element(Ceramic candle or as applicable)	2 sets			
2.2	After filter element(Ceramic candle or as applicable)	2 sets			
2.3	Heater element(if applicable)	1 sets			
2.4	Blower bearing(if applicable)	1 sets			
2.5	Blower motor bearing(if applicable)	2 sets			
2.6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets			
2.7	Heater coil for temperature stabilization (for HOC type)(as applicable)	2 sets			
3.3	Rotary drum type Air drying plant for Instrument Air system (As applicable)				
3.3.1	Drive assembly consisting of motor, gear boxes, drive shaft & coupling	1 set			
3.4	Motor for air compressor	1 no.			
3.5	MEASURING INSTRUMENTS				
	1 Electronic Transmitters				
(i)	Transmitters of all types, ranges and model no. (for the measurement of Pressure, differential pressure flow, level, etc.)	10% or 1 No. of each type and model, whichever is more			

2 Temperature elements			
(i)	RTD's * of each type and length	10% or 2 Nos. of each type and length Which ever is more	
ii)	Thermocouples of each type like K-type, R-type, metal etc. and length *	10% or 2 Nos. of each type and length Which ever is more	
(iii)	Thermowell for application like mill outlet temperature and SH/RH/Eco/ true gas temp. in furnace	10% or 2 Nos. of each type and length Which ever is more	
(iv)	Temperature transmitters	10% of each type and length whichever is more	
3	Local Indicators like temperature gauges, pressure gauges, differential pressure gauges, flow gauges flow meters etc.,	5% or 1 No. of each make, model and type whichever is more (to be divided to various ranges in proportion to main of all make,	
4	Process Actuated Switch Devices Includes all types of Pressure, differential pressure, flow, temperature, differential temperature, level switch Devices	5% or 1 No. of each type and model whichever is more	
5	Dew Point meters	5% or 1 No. of each type and model whichever is more	
3.6 MICROPROCESSOR BASED/PLC BASED CONTROL/ ELECTRONIC BASED CONTROL PANEL (IF APPLICABLE)			
1	Fully programmed controller of electronic modules of each type (as applicable)	10% or 1 no. whichever is more	
2	Power supply module (if applicable)	10% or 1 no. whichever is more	

NOTE:

1	Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
2	Any fraction of a item shall mean the next higher integer.
3	Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
4	Wherever the quantities have been indicated for each type, size, thickness, material, radius, range etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
5	In case spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.

Particulars of bidder / authorised representative

Name	Designation	Signature & company seal	Date

SUGGESTED PRICE FORMAT		Doc No:	PE-PF-467-555-A001		
		Rev No:	0		
		Date of issue	22.01.20		
NAME OF PROJECT:		3x200 MW + 3X500 MW RAMAGUNDAM FGD			
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM			
TECHNICAL SPECIFICATION:		PE-TS-467-555-A001			
S. No.	DESCRIPTION	HSN / SAC CODE	UNIT	QTY	
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part including 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 (as applicable), fill of lubricants & consumables, mandatory spares along with spares for erection, start up 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, preparation of layout drawings and carrying out Performance guarantee tests at site, training of customer/client and 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, amendment & agreements till placement of order.	8414 40 30	Lot	1	
2.0	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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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)	8414 40 30	Lot	1	
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of 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 (if applicable) 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.	998732	Lot	1	
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)	8414 90 90	Lot	1	
Note: 1.) PG 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-467-555-A001
		Rev No:	0
		Date of issue	22.01.20
NAME OF PROJECT:		3x200 MW + 3X500 MW RAMAGUNDAM FGD	
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:		PE-TS-467-555-A001	
S. No.	DESCRIPTION	UNIT	QTY
BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.			
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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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
Break up prices for items covered in clause 2.1 above.			
2.1.1	Air Compressors (Oil Free Screw type) each of minimum 15 NM3/Min capacity @ 8.5 kg/cm2 (min.) discharge pressure with suction filter with silencer, inter cooler and after cooler with moisture separators, automatic drain traps, instruments, control system, cable lugs, glands and other accessories including electric motor drive.	Nos.	2
2.1.2	Air Drying Plants Heat of compression (HOC) Rotary type/ Twin Tower Type of min. 15 NM3/min. capacity for Instrument Air Compressor with all instruments, control panels and other accessories as specified.	Nos.	2
2.1.3	Air Receivers required for Compressed Air System of minimum 02 Cu.M capacity each with instruments, relief valve, isolation valve, drain connection with automatic trap stations (zero purge air loss type) and other accessories as specified.	Nos.	2
2.1.4	Inter connecting cooling water, drain piping and compressed air piping as specified including fittings and valves etc. for complete Compressed air system.	Lot	1
2.1.5	Field instruments, junction box, Tools & Tackles, Commissioning spares etc. for complete Compressed air system.	Lot	1
Note: 1.) PG to consider and suitably incorporate taxes, duties and other commercial aspects.			
Particulars of bidder / authorised representative			
Name	Designation	Signature	Date
			Company Seal

SUGGESTED PRICE FORMAT ANNEXURE-II LIST OF MANDATORY SPARES				Doc No:	PE-PF-467-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:				3x200 MW + 3x500 MW RAMAGUNDAM FGD	
NAME OF PACKAGE:				COMPRESSED AIR SYSTEM	
TECHNICAL SPECIFICATION:				PE-TS-467-555-A001	
S. No.	DESCRIPTION	UNIT	QTY		
1.0	Oil free Screw Air Compressor				
1.1	H. P. Stage Complete HP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.2	L. P. Stage Complete LP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating			
1.3	Motor Bearings	2 Sets			
1.4	LP stage Gear and Pinion	1 Set			
1.5	HP stage Gear and Pinion	1 Set			
1.6	Air Intake Filter Element With Gaskets	4 Sets			
1.7	Oil Filter Element With Gaskets & Seals	4 Sets			
1.8	Safety Valve Springs and Gaskets for HP stage	1 Set			
1.9	Safety Valve Springs and Gaskets for LP stage	1 Set			
1.10	Valves (within the compressor house with actuators)	2 nos of each type/ ratings/ size.			
1.11	Oil Pump/Motor				
1.11.1	Oil Pump and Motor complete assembly	1 Set			
1.11.2	Pump impeller/rotor with shaft	1 Set			
1.11.3	Set of bearings	2 Set			
1.11.4	Set of Seals	2 Set			
1.12	Drain / Moisture Trap	2 Set of each type/size.			
1.13	Oil Cooler Gaskets & Seals	2 sets			
2.0	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM (As applicable)				
2.1	Pre filter element(Ceramic candle or as applicable)	2 sets			
2.2	After filter element(Ceramic candle or as applicable)	2 sets			
2.3	Heater element(if applicable)	1 sets			
2.4	Blower bearing(if applicable)	1 sets			
2.5	Blower motor bearing(if applicable)	2 sets			
2.6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets			
2.7	Heater coil for temperature stabilization (for HOC type)(as applicable)	2 sets			
3.3	Rotary drum type Air drying plant for Instrument Air system (As applicable)				
3.3.1	Drive assembly consisting of motor, gear boxes, drive shaft & coupling	1 set			
3.4	Motor for air compressor	1 no.			
3.5	MEASURING INSTRUMENTS				
	1 Electronic Transmitters				
(i)	Transmitters of all types, ranges and model no. (for the measurement of Pressure, differential pressure flow, level, etc.)	10% or 1 No. of each type and model, whichever is more			

2 Temperature elements			
(i)	RTD's * of each type and length	10% or 2 Nos. of each type and length Which ever is more	
ii)	Thermocouples of each type like K-type, R-type, metal etc. and length *	10% or 2 Nos. of each type and length Which ever is more	
(iii)	Thermowell for application like mill outlet temperature and SH/RH/Eco/ true gas temp. in furnace	10% or 2 Nos. of each type and length Which ever is more	
(iv)	Temperature transmitters	10% of each type and length whichever is more	
3	Local indicators like temperature gauges, pressure gauges, differential pressure gauges, flow gauges flow meters etc.,	5% or 1 No. of each make, model and type whichever is more (to be divided to various ranges in proportion to main of all make,	
4	Process Actuated Switch Devices Includes all types of Pressure, differential pressure, flow, temperature, differential temperature, level switch Devices	5% or 1 No. of each type and model whichever is more	
5	Dew Point meters	5% or 1 No. of each type and model whichever is more	
3.6	MICROPROCESSOR BASED/PLC BASED CONTROL/ ELECTRONIC BASED CONTROL PANEL (IF APPLICABLE)		
1	Fully programmed controller of electronic modules of each type (as applicable)	10% or 1 no. whichever is more	
2	Power supply module (if applicable)	10% or 1 no. whichever is more	

NOTE:

1	Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
2	Any fraction of a item shall mean the next higher integer.
3	Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
4	Wherever the quantities have been indicated for each type, size, thickness, material, radius, range etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
5	In case spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.

Particulars of bidder / authorised representative

Name	Designation	Signature & company seal	Date

SUGGESTED PRICE FORMAT				Doc No:	PE-PF-463-555-A001
				Rev No:	0
				Date of issue	22.01.20
NAME OF PROJECT:		4 X 250 MW NABINAGAR FGD			
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM			
TECHNICAL SPECIFICATION:		PE-TS-463-555-A001			
S. No.	DESCRIPTION	HSN / SAC CODE	UNIT	QTY	
1.0	Total lump sum firm price inclusive of all prevailing taxes, duties and other levies for Supply part, Services part including 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 (as applicable), fill of lubricants & consumables, mandatory spares along with spares for erection, start up 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, preparation of layout drawings and carrying out Performance guarantee tests at site, training of customer/client and 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, amendment & agreements till placement of order.	8414 40 30	Lot	1	
2.0	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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preparation of layout drawings 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)	8414 40 30	Lot	1	
2.2	Total lumpsum firm prices inclusive of all prevailing taxes, duties and other levies for Services part comprising of 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 (if applicable) 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.	998732	Lot	1	
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)	8414 90 90	Lot	1	
Note: 1.) PG 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-463-555-A001	
		Rev No:	0	
		Date of issue	22.01.20	
NAME OF PROJECT:		4 X 250 MW NABINAGAR FGD		
NAME OF PACKAGE:		COMPRESSED AIR SYSTEM		
TECHNICAL SPECIFICATION:		PE-TS-463-555-A001		
S. No.	DESCRIPTION	UNIT	QTY	
	BREAK-UP OF SUPPLY PRICES GIVEN IN 2.1 OF MAIN SHEET.			
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 (as applicable), fill of lubricants & consumables alongwith spares for erection as required, startup and commissioning spares, forwarding, proper packing, shipment and delivery at site, preperation of layout drawings 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	
	Break up prices for items covered in clause 2.1 above.			
2.1.1	Air Compressors (Oil Free Screw type) each of minimum 15 NM3/Min capacity @ 8.5 kg/cm2 (min.) discharge pressure with suction filter with silencer, inter cooler and after cooler with moisture separators, automatic drain traps, instruments, control system, cable lugs, glands and other accessories including electric motor drive.	Nos.	2	
2.1.2	Air Drying Plants Heat of compression (HOC) Rotary type/ Twin Tower Type of min. 15 NM3/min. capacity for Instrument Air Compressor with all instruments, control panels and other accessories as specified.	Nos.	2	
2.1.3	Air Receivers required for Compressed Air System of minimum 02 Cu.M capacity each with instruments, relief valve, isolation valve, drain connection with automatic trap stations (zero purge air loss type) and other accessories as specified.	Nos.	2	
2.1.4	Inter connecting cooling water, drain piping and compressed air piping as specified including fittings and valves etc. for complete Compressed air system.	Lot	1	
2.1.5	Field instruments, junction box, Tools & Tackles, Commissioning spares etc. for complete Compressed air system.	Lot	1	
Note: 1.) PG to consider and suitably incorporate taxes, duties and other commercial aspects.				
Particulars of bidder / authorised representative				
Name	Designation	Signature	Date	Company Seal

SUGGESTED PRICE FORMAT			
ANNEXURE-II			
LIST OF MANDATORY SPARES			
NAME OF PROJECT:		Doc No:	PE-PF-463-555-A001
		Rev No:	0
		Date of issue	22.01.20
NAME OF PACKAGE:		4 X 250 MW NABINAGAR FGD	
TECHNICAL SPECIFICATION:		COMPRESSED AIR SYSTEM	
		PE-TS-463-555-A001	
S. No.	DESCRIPTION	UNIT	QTY
1.0	Oil free Screw Air Compressor		
1.1	H. P. Stage Complete HP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating	
1.2	L. P. Stage Complete LP Stage assembly consisting of high pressure element, Bearing for male and female rotors (drive end), Bearing for male and female rotors (non-drive end), Timing gears, Graphite ring shaft for compressor chamber seals or white metal labyrinth, suction valve, discharge valve, packing set, Axial thrust bearing, Labyrinth oil seal or radial seals or double acting seals for drive shafts.	1 Set of each type/rating	
1.3	Motor Bearings	2 Sets	
1.4	LP stage Gear and Pinion	1 Set	
1.5	HP stage Gear and Pinion	1 Set	
1.6	Air Intake Filter Element With Gaskets	4 Sets	
1.7	Oil Filter Element With Gaskets & Seals	4 Sets	
1.8	Safety Valve Springs and Gaskets for HP stage	1 Set	
1.9	Safety Valve Springs and Gaskets for LP stage	1 Set	
1.10	Valves (within the compressor house with actuators)	2 nos of each type/ ratings/ size.	
1.11	Oil Pump/Motor		
1.11.1	Oil Pump and Motor complete assembly	1 Set	
1.11.2	Pump impeller/rotor with shaft	1 Set	
1.11.3	Set of bearings	2 Set	
1.11.4	Set of Seals	2 Set	
1.12	Drain / Moisture Trap	2 Set of each type/size.	
1.13	Oil Cooler Gaskets & Seals	2 sets	
2.0	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM (As applicable)		
2.1	Pre filter element(Ceramic candle or as applicable)	2 sets	
2.2	After filter element(Ceramic candle or as applicable)	2 sets	
2.3	Heater element(if applicable)	1 sets	
2.4	Blower bearing(if applicable)	1 sets	
2.5	Blower motor bearing(if applicable)	2 sets	
2.6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets	
2.7	Heater coil for temperature stabilization (for HOC type)(as applicable)	2 sets	
3.3	Rotary drum type Air drying plant for Instrument Air system (As applicable)		
3.3.1	Drive assembly consisting of motor, gear boxes, drive shaft & coupling	1 set	
3.4	Motor for air compressor	1 no.	
3.5	MEASURING INSTRUMENTS		
	1 Electronic Transmitters		
(i)	Transmitters of all types, ranges and model no. (for the measurement of Pressure, differential pressure flow, level, etc.)	10% or 1 No. of each type and model, whichever is more	

2 Temperature elements			
(i)	RTD's * of each type and length	10% or 2 Nos. of each type and length Which ever is more	
ii)	Thermocouples of each type like K-type, R-type, metal etc. and length *	10% or 2 Nos. of each type and length Which ever is more	
(iii)	Thermowell for application like mill outlet temperature and SH/RH/Eco/ true gas temp. in furnace	10% or 2 Nos. of each type and length Which ever is more	
(iv)	Temperature transmitters	10% of each type and length whichever is more	
3	Local Indicators like temperature gauges, pressure gauges, differential pressure gauges, flow gauges flow meters etc.,	5% or 1 No. of each make, model and type whichever is more (to be divided to various ranges in proportion to main of all make,	
4	Process Actuated Switch Devices Includes all types of Pressure, differential pressure, flow, temperature, differential temperature, level switch Devices	5% or 1 No. of each type and model whichever is more	
5	Dew Point meters	5% or 1 No. of each type and model whichever is more	
3.6	MICROPROCESSOR BASED/PLC BASED CONTROL/ ELECTRONIC BASED CONTROL PANEL (IF APPLICABLE)		
1	Fully programmed controller of electronic modules of each type (as applicable)	10% or 1 no. whichever is more	
2	Power supply module (if applicable)	10% or 1 no. whichever is more	

NOTE:

1	Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
2	Any fraction of a item shall mean the next higher integer.
3	Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
4	Wherever the quantities have been indicated for each type, size, thickness, material, radius, range etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
5	In case spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.

Particulars of bidder / authorised representative

Name	Designation	Signature & company seal	Date