

2X800 MW DARLIPALI STPP STAGE-I (SG PKG).

COMPRESSED AIR SYSTEM

PRICE FORMAT FOR FOREIGN BIDDERS

Clause No.	DESCRIPTION	Qty.	Unit	Price percentage of total ex-works supply price at column 7.	Unit FOB Price duly seaworthy packed (Bidder to indicate currency)	Total FOB Price duly seaworthy packed (Bidder to indicate currency)	E&C Charges	Service Tax on E & C Charges @.....%	Total E & C Price including Service Tax	Total Lumpsum Price for Supply and E & C including Service Tax
1	2	3	4	5	6	7	8	9	10	11 = 7+10
1.0	LUMPSUM PRICES Total lumpsum firm prices for Equipment & Services as Specified, Comprising Design, Engineering, Manufacture, Inspection & Testing at Manufacturer's Works, Painting at Manufacturer's Works, Duly packed for Transportation, Delivery to Site of Compressed Air System as per Specification No. PE-TS-403-555-A001 including supply of erection materials, commissioning spares, mandatory spares, consumables as required to complete the compressed air plants/equipments installation, maintenance tools & tackles.	1	Lot	100%						
2.0	Break up prices for items covered in clause 1.0 above. Prices for design, manufacture, inspection & testing at manufacturers works & supply of following items.									
2.1	Instrument Air Compressor (oil free Screw / Centrifugal type) Each of 60 NM ³ /Minute capacity at 8.0 kg/cm ² (g) consisting Electric motor to drive the compressor with accessories, Suction filter and silencer, Inter Cooler, After Cooler with moisture separators, automatic drain traps, instruments, Control panel etc.	3	Nos	22 - 25 %						
2.2	Air Dryer (HOC Type) Air Drying Plant of 60 NM ³ /min and to match instrument air compressor with all instruments and controls as specified.	3	Nos	8 - 12 %						
2.3	Plant Air Compressor (oil free Screw / Centrifuga type) Each of 60 NM ³ /Minute capacity at 8.0 kg/cm ² (g) consisting Electric motor to drive the compressor with accessories, Suction filter and silencer, Inter Cooler, After Cooler with moisture separators, automatic drain traps, instruments, Control panel etc.	4	Nos	30 - 33 %						
2.4	Air Receivers									
2.4.1	Compressor house & Unit air receiver of 10 M ³ capacity with each having Pressure switches, Relief valve, Drain connection with automatic trap stations and other accessories as specified.	9	Nos	6 - 8 %						
2.4.2	DM plant air receiver of 2 M ³ capacity, having Pressure switches, Relief valve, Drain connection with automatic trap stations and other accessories as specified.	1	Nos							
2.5	Inter connecting cooling water and compressed air piping as specified including fittings and valves, etc. for complete compressed air system.	1	Lot	8 - 12 %						
2.6	Drain piping up to the nearest drain point	1	Lot							
2.7	Field instruments as specified	1	Lot							
2.8	Temperature transmitters as specified(for RTD & BTM element)	35	Nos							
2.9	Pressure Transmitters (Each for IA Header & SA Header)	2	Nos							
2.10	Electronic Dew point meter	3	Nos							
2.11	Interface module for the overall control of compressed air system through DDCMIS	1	Lot							
2.12	Junction box, Cable lugs, glands, etc for Compressed Air System equipment as required.	1	Lot							
2.13	Control cable from Compressor House to HT Switch Gear & Signal cable between Compressor House & DDCMIS (SG C&I) as specified elsewhere in the Technical Specification	1	Lot	15 - 20 %						
2.14	Online Vibration monitoring system for all air compressors and its motors as specified	1	Lot							
2.15	Total lump sum prices for Maintenance Tool & Tackles (bidder to furnish item wise prices separately along with the price bid, as per format attached as Annexure I to this section).	1	Lot							
2.16	Total lump sum prices for commissioning spares (bidder to furnish lists of spares with item wise prices separately along with the price bid, as per format attached as Annexure II to this section).	1	Lot							
2.17	Total of 2.1 to 2.16			Range of 90-110 % of the Total Ex-works Supply price has been provided. However, the final amount shall be 100 % of the Total Ex-works Supply price.						
3.0	Total lumpsum prices for mandatory spares as specified for compressed air System. (Bidder to furnish unit prices for each item in the Mandatory spares list, Annexure III to this section, separately along with the price bid).	1	Lot	Actual price to be indicated.						
4.0	Total of 2.17 and 3.0 (should match with 1.0)									
NOTES										
a)	Bidder to note that total price indicated above at 4.0 shall be considered for evaluation and hence should be complete in all respect for the full scope defined and considering all terms and conditions agreed including electrical and control & instrumentation. In case there is any mismatch between lumpsum and break-up price, higher of the two will be considered for evaluation and order will be placed on lower price in case the bidder happens to be L1.									
b)	Bidder to note that Total erection & commissioning charges including service tax (above at column no. 14 of 1.0) should be minimum 20% of the total quoted package price (excluding mandatory spares but including all taxes and freight), falling which the break-up of prices shall be adjusted accordingly for ordering.									
c)	Any item not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.									
d)	Bidder shall furnish the price of all items separately as indicated in the price schedule. Bidder's offer shall liable to be rejected in case bidder does not furnish the same.									
e)	Bidders are requested to obtain clarifications in case of any doubt before filling the price schedule in the prebid clarification stage. It is requested not to make any assumption.									

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MANDATORY SPARES FOR STEAM GENERATOR PACKAGE FOR CAS FOR FOREIGN BIDDERS
2X800 MW DARLIPALI STPP STAGE-I (SG PKG).

Sl. NO.	PARTICULARS	Qty.	Unit FOB Price duty seaworthy packed (Bidder to indicate currency)	Total FOB Price duty seaworthy packed (Bidder to indicate currency)	Remark
1.0.00	Oil free Screw Air Compressor (As applicable)				
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			
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			
3	Motor Bearings	2 Sets			
4	LP stage Gear and Pinion	1 Set			
5	HP stage Gear and Pinion	1 Set			
6	Air Intake Filter Element With Gaskets	4 Sets			
7	Oil Filter Element With Gaskets & Seals	4 Sets			
8	Safety Valve Springs and Gaskets for HP stage	1 Set			
9	Safety Valve Springs and Gaskets for LP stage	1 Set			
10	Valves (within the compressor house with actuators)	2 nos of each type/ratings/size.			
11	Oil Pump/Motor	1 Set			
11.1	Oil Pump and Motor complete assembly	1 Set			
11.2	Pump impeller/rotor with shaft	1 Set			
11.3	Set of bearings	2 Set			
11.4	Set of Seals	2 Set			
12	DRAIN / MOISTURE TRAP	2 Set of each type/size.			
13	OIL COOLER GASKET & SEALS	2 sets			
2.0.00	Centrifugal Compressor (As applicable)				
1	Pinion Shaft journal Bearing Assembly	2 sets			
2	Thrust Bearing Assembly	2 sets			
3	Shaft Seals for Air-Oil (All stages)	2 sets			
4	Gasket / O rings	3 Sets of each type/size.			
5	Air Intake Filter Elements	4 Sets of each type/size.			
6	Lub Oil System				
6.1	Main oil pump complete	1 No			
6.2	Aux. oil pump complete	1 No			
6.3	Complete coupling for main & Aux. Oil pump, spacer	1 No			
6.4	Catridge filter elements with gaskets and seal	4 sets			
7	Motor Bearings	2 sets			
8	DRAIN / MOISTURE TRAP	2 Set of each type/size.			
9	OIL COOLER GASKET & SEALS	2 sets			
3.0.00	AIR DRYING PLANT (Twin tower type) FOR IA SYSTEM				
1	Pre filter element (Ceramic candle or as applicable)	2 sets			
2	After filter element (Ceramic candle or as applicable)	2 sets			
3	Heater element (if applicable)	1 set			
4	Blower bearing (if applicable)	1 set			
5	Blower motor bearing (if applicable)	2 sets			
6	Valves & Valve Actuators (pneumatic/hydraulic)	2 sets			
7	Heater coil for temperature stabilization (for HOC type) (as applicable)	2 sets			
	OR				
3.0.00	AIR DRYING PLANT (Rotary Drum type) FOR IA SYSTEM				
a)	Drum (with required bearings) assembly packed with desiccant	2 sets			
b)	Drive assembly (for dryer) consisting of motor, gear boxes, drive shaft & coupling	1 set			
4.0.00	Valves	5% of the total population of each type, size and class OR minimum 2 nos. of each type, size and class whichever is more.			Complete valve along with Actuators (pneumatic / hydraulic) and all other accessories which are the part of original supply shall be supplied
5.0.00	Electrical Actuators				
1	Power unit for modulating actuator	One of each type & size			
2	DC-DC unit/power pack units	One of each type & size			
3	Electronic cards	1 set			
4	Position feed back transmitters	One of each type & size			
5	Control unit	1 no. of each type			
6	Torque and limit switch assembly of each unit	1 no. of each type			
7	Actuators	One of each type make & rating			
6.0.00	MEASURING INSTRUMENTS				
1	Electronic Transmitters				
1.1	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.			
1.2	Level Transmitters (Ultrasonic/ radar type)	50% of each type and length, including sensors			
2	Temperature elements				
2.1	RTD's of each type and length (with head assembly, terminal block & nipple)	10% or 2 nos. of each type and length, whichever is more			
2.2	Thermocouples of each type like K-type, R-type, metal etc. * (with head assembly, terminal block & nipple)	10% or 2 nos. of each type and length which ever is more			
2.3	Thermowell for application like mill outlet temperature and SH/RH/Eco/ flue gas temp. in furnace	10% or 2 nos. of each type and length whichever is more			
2.4	Temperature transmitters	10% of each type and length			
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, model, type population)			
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	PD Type Flow Transmitters	1 no. of each type and model			
6	Instruments within Compressor Skid	10% or 2 nos. of each type and length, whichever is more			
7	Instruments within Drier Skid	10% or 2 nos. of each type and length, whichever is more			
7.0.00	INSTRUMENTATION CABLE, INTERNAL WIRING & ELECTRICAL FIELD				
1	Pre fabricated cable of each type	10% of installed quantity			
2	Pre fabricated cable connector of each type	10% or 1 no. of each type and model, whichever is more.			
3	Other cables	5% of each type, pair end size of actual installed quantity			
8.0.00	POWER SUPPLY SYSTEM (24 V DC power supply system) (To be provided for each system)				
1	Silicon controlled thyristors, diodes, power transistors	100%(1 Lot)			
2	Capacitors	1 set			
3	Fuse free Circuit breakers	5% or 1 no. of each type and rating, whichever is more			
4	Electronic modules of all types.	20% or 2 nos. of each type and model, whichever is more			
5	Cooling Fans	10% or 2 nos. of each type, whichever is more.			
6	Indication Lamps	200%			
7	Lamp holders with series resistor, if any	20%			
8	Digital / analog panel meters / indicators	10%			
9	Relays of all types including overload relays	20%			
9.0.00	PROCESS CONNECTION PIPING (FOR IMPULSE PIPING/TUBING, SAMPLING PIPING / TUBING AND AIR SUPPLY PIPING AS APPLICABLE)				
1	Valves of all types and models	10% or 1 no. of each type, class, size and model whichever is more			
2	2 way, 3way, 5way valve manifolds	10% or 1 no. of each type, class, size and model whichever is more			
3	Fittings	10% or 1 packet of each type, class, size and model whichever is more.			
4	Purge meters	5% of each model or 1 no. whichever is more.			
5	Filter regulators	20% of each model or 2 nos. whichever is more.			
10.0.00	CONTROL VALVES, ACTUATORS & ACCESSORIES				
1	Pneumatic and electro-hydraulic actuator assembly	10% or 1 no. of each type, model and rating, whichever is more			
2	Valve trim (including cage, plug, stem, seal rings, guide bushings etc.)	1 set for each type of control valve whichever is more.			
3	Diaphragms, O' rings, seats etc. of all types, make etc.	200%			
4	Pressure Gauges of all types, make, rating etc.	10% or 2 nos. of each type whichever is more.			
5	Solenoid valves (if applicable)	10% or 2 nos. of each type whichever is more.			
6	Positioner units (complete unit)	10% or 1 nos. of each type whichever is more.			
7	Pneumatic air-filter/Regulator of each type, make, rating etc.	10% or 2 nos. whichever is more.			
8	Air lock relays	10% or 2 nos. of each type whichever is more.			
11.0.00	MICROPROCESSOR BASED/PLC BASED CONTROL SYSTEM FOR AIR COMPRESSOR & DRYER UNIT				
1	Complete set including integral microprocessor based control system along with system & application software and special cables	10% or 1 nos. which ever is more			
TOTAL PRICE					
Note: - 1. One set of spares of a particular item shall be the quantity required for complete replacement of that particular item for one equipment.					
2. Wherever % is indicated, the quantity of that item shall be calculated against the total quantity of the item supplied for 2X800 MW DARLIPALI STPP, unless otherwise specified. The quantity to be reckoned for % indicated shall be rounded off to the next higher whole number. For example if the % of total quantity arrived is 0.2, the quantity to be supplied shall be 1 and if the % of total quantity is 5.1, the quantity to be supplied shall be 6.					

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ANNEXURE - GPC

Compressed Air System for 2X800 MW DARLIPALI STPP STAGE-I (SG PKG).

Guaranteed Power Consumption for Compressed Air System shall be as per following: -

Sl. No.	Description of Equipment	No. of Equipments to be considered for guaranteed power consumption	Total Guaranteed Power Consumption for Each Equipment at motor input terminal (kW)	Duty Factor	Total Power Consumption (KW)
1	2	3	4	5	6 = (3) x (4) x (5)
1.0	Service Air Compressor of 60 Nm ³ /min at 8.0 kg/cm ² (g)	1		1	
2.0	Instrument Air Compressor of 60 Nm ³ /min at 8.0 kg/cm ² (g)	1		1	
3.0	Air Drying Plant for IA	1		1	
				Total kW	

Notes: -

- 1) Base figure of Aux. Power consumption as per above criterion for CAS (for working drives only) shall be 1100 kW (for one unit).
- 2) Bidder's guaranteed power consumption at motor input terminals (not shaft power) as furnished in guaranteed schedule shall be demonstrated by the successful bidder during performance testing at works/site.
- 3) The price quoted by the bidder shall be loaded @ USD2258 for every additional kW increase in consumption from the base figure indicated at Note no. (1) above.
- 4) In case the successful bidder fails to establish / prove the guaranteed values of power consumption (base figure of auxiliary power consumption) on actual performance testing at the manufacturing works / site, penalty @USD 2258 per kW increase in power consumption figure shall be levied.

Guaranteed