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Siemens Ltd., Baroda

ROJECT: 1 x	3 MW 32 TPH Spe				
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Sr.No.	Tender Clause No. / Clause heading	P.N.	Requirement in Brief	PBBPL comments3005.2025	Shri Someshwar S.S.S K.Ltd/Client
	1.1.4.1.4		1.1.4.1.4High speed coupling between the turbine and the gear box, and low speed coupling between the gear box and the alternator with acoustic cover made of solid castings.	Coupling guard shall be provided for high speed & low speed coupling. Acousting enclosure not required for coupling.	Agreed
	1.1.4.1.4		Lube Oil system - Emergency gravity lube oil system with overhead tank, piping, valves and instrumentation.	Lube oil system Shall be as per OEM design. Offered system is Shaft driven MOP, so Emergency Gravity Lube oil System is not envisged	Agreed
	1.1.4.1.9		One oil reservoir complete with strainers, drains, maintenance openings, vents, connections to oil inlet, outlet and to oil purifier unit, oil level indicator, level switches and two 100 % (One working and one as stand by) oil vapour extractors.	1 x 100% oil vapour extractor shall be provided as per PID.	Agreed
	1.1.4.1.9		Two 100 % oil filters individually for the lube and control oil with necessary two way change over valves.	2 x 100% common lube oil filters for lube & control oil with necessary change over valve shall be provided.	Agreed
	1.1.4.1.9		One main oil pump driven by Gear, one auxiliary oil pump driven by A.C motor, and one emergency oil pump driven by Hand.	1 x 100% shaft driven main oil pump, 1 x 100% AC motor driven auxiliary lube oil pump and 1 x 30% DC motor driven emergency oil pump shall be provided as shown in PID.	Agreed
	1.1.4.1.9		One hundred percent (100 %) capacity centrifugal/gear type, Main oil pump shall be driven by A.C electric motor driven main oil pump.	1 x 100% capacity screw type, shaft driven main oil pump shall be provided as per PID	Agreed
	1.1.4.1.9		One (1) No. of one hundred (100 %) capacity A.C motor driven auxiliary oil pump of centrifugal type, arranged to cut in automatically if the oil pressure falls to a preset	1 x 100% AC motor driven, screw type auxiliary oil pump shall be provided as per PID	Agreed
	1.1.4.1.9		One (1) DC drive, centrifugal type, emergency oil pump of adequate capacity to provide adequate lubrication in the event of a failure of the A.C motor driven pump(s).	1 x 30% DC motro drvien gear type emergency oil pump shall be provided as per PID.	Agreed
	1.1.4.1.9		Oil storage and settling tank with adequate reservoir capacity, strainers, level indicators with float switches and alarm contacts, vent and oil mist eliminators and 2x100% capacity vapour exhaust fans.	Main oil tank shall be provided with 1 x 100% capacity oil vapour extractor fan as per PID.	Agreed
	3.4.6		The glands shall preferably be of labyrinth type and sealed with steam. The gland packing shall be of 13% chromium stainless steel.	Gland packing shall be labyrinth type. Percentage of chromium shall be as per OEM design practice.	Agreed
	3.4.8.3		3.4.8.3 Oil coolers	2 x 100% capacity plate type oil coolers shall be provided. Plate material shall be SS 316.	Agreed
	3.4.8.5		3.4.8.5 Oil reservoir & piping	Interior of oil reservoir shall be provided with rust preventive. Piping shall be as per ASME 31.1 as per manufacturer's standard.	To be provide as per Tender Document
	1.1.4.11		QCNRV, motorised Isolation valve, expansion bellow for exhaust steam line. 1 nos 30% vent control valve with manual isolation valve to be provided	Mechanical NRV shall suffice the requirement in exhaust line of offered turbine. Hence NRV (loose supply) shall be provided instead of QCNRV as per PID. 30% capacity Safety relief valve shall be provided in exuahst line as loose supply as per PID.	Agreed for Mechanical NRV.Motorised Main Isolation,30%safety Valve and one no 30%venting control valve with manual isolation valve to provide upstream of control valve.
3			3.10 Tests And Inspection	Tests & Inspection shall be as per ITPs submitted by OEM.	Agreed
			The complete excitation system consisting of the brushless exciter mounted on	Proposed AVR is 1A+1M UN1010 type, design features shall be as per OEM recommendation	
			the generator shaft and the digital automatic excitation regulation cubicle, with	/ standard for the selected product.	
1.1.4.2.2			twin auto and one manual channels of AVR		Provide As per tender Document
	1.1.4.2.3		Sectionalized closed air circuit water (CACW) cooling system with interconnection ducting.	Air-watercoolers (CACW), top mounted 2 X 66% with SA213TP304 cooler tubes with 5% plugging margin. Generator shall deliver 66 % output in case of one section of cooler is out of service (Water inlet -32deg C & outlet - 40deg C). Cooler shall be as per OEM standard.	Agred
	1.1.4.2.6		Generator protection, metering, control and synchronizing cubicles , and Digital	Combined turbine control, monitoring and protection panel is offered as per details indicated in Siemens SLD and technical offer for the offered STG Set. <u>3 breaker</u> Synchronisation facility shall be provided	To be provide as per Tender Document

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3.5.13	Vibration	Siemens shall provide Vibration measurement with Only Probes & connected directly to customer DCS panel for Monitoring and tripping. •Turbine- 2+2 shaft vibration sensor (proximity sensor, X-Y direction) •Gear Box- 2+2 shaft vibration sensor (proximity sensor, X-Y direction)_ refer P&ID •Generator- 2 Bearing Housing vibration sensor •Turbine 2 axial position sensor (Proximity) Radial Probe shall be of WKN Series transmitter (SHINKAWA make) which combines signal conditioning circuit with the probe driver into one system. Two wire current loop drives the transducer and transmits 4-20 mA signals (without external signal condition VM21T and transmits 4-20 mA signal. Refer P&ID for more details.	Agrred for Shinkava make vibration monitoring system on TSP Panel with LCD Display and touch screen . Also hook up to DCS System .
4.5 & 4.6	4.5 Insulation 4.6 Temperature Rise	Insulation and temperature design shall be done as per OEM standard.	Agreed
4.8	Cooling	Air-watercoolers (CACW), top mounted 2 X 66% with SA213TP304 cooler tubes with 5% plugging margin. Generator shall deliver 66 % output in case of one section of cooler is out of service (Water inlet :-32deg C & outlet :- 40deg C). Cooler shall be as per OEM standard.	Agreed