



TITLE:
TECHNICAL SPECIFICATION FOR
DM PLANT
1X800 MW TSGENCO KOTHAGUDEM TPS
STAGE –VII, PALONCHA

SPECIFICATION NO.: PE-TS-410-163-A001

VOLUME: II-B

SECTION: C1

REV NO: 00

DATE:

ANNEXURE –A

36.00.00	ALKALI TRANSFER CUM RECIRCULATION PUMPS (BIDDER'S SCOPE)	
A)	Number	Two (2) (1Working +1Standby)
B)	Description for each Pump	
(i)	Location	DM plant.
(ii)	Fluid to be handled	Commercial (40 – 48 %) Sodium Hydroxide.
(iii)	Duty	Intermittent and to be suitable for parallel operation.
(iv)	Type of Pump	Horizontal Centrifugal Non Clog type
(v)	Type of Impeller	Semi Open or Open
(vi)	Design standard	As per IS-5639 & IS-5120.
(vii)	Service temperature, in degree Celsius	60 maximum.
(viii)	Rated Capacity, in m3/hr	Not less than 10
(ix)	Permissible tolerance in rated capacity, in %	As per IS-5639 & IS-5120.
(x)	Range of operation	60 % - 120 %.
(xi)	Suction Condition	Flooded.
(xii)	Head to be developed at rated capacity	20 mlc minimum. If necessary, higher value needs to be considered by Bidder to meet the requirements as per Tender Specification (C should be considered as 120 to calculate the frictional loss in pipe as per Hagen Williams Equation).
(xiii)	Shut Off Head	To be suitable for stable operation at rated duty point.
(xiv)	Permissible tolerance in efficiency at rated capacity, in %	As per IS-5639 & IS-5120.
(xv)	Material of construction	
	a) Casing	AISI-316
	b) Impeller	AISI-316
	c) Shaft	SS-410
	d) Mechanical Seal	AISI-304.
	e) Common Base plate	Fabricated Steel as per IS 2062.
	f) Nuts and bolts	AISI-304.
(xvi)	Type of drive	Electrical Motor
(xvii)	Criteria for selection of drive motor	Minimum 15 % margin over BkW at rated duty point shall be taken and standard motor with next higher KW as available shall be selected. This shall in no way be less than the maximum power required by the Pump
(xviii)	Rated speed (RPM)	1500 (Sync.) maximum.
(xix)	Voltage, Phase & Frequency (± % Variation)	415 V (±10%), 3 Phase, 50 HZ (+5%)
(xx)	Type of coupling between Pump & Motor	Flexible Spacer.
(xxi)	Noise level (for complete set of Pump & Motor)	Not more than 85 db (At a distance of 1.0 m from the outer surface of Motor).
(xxii)	Painting for complete set of Pump & Motor	As per attached painting schedule
(xxiii)	Tests and Inspection	
	a) Material Test required for	Casing, Impeller, Shaft and Shaft Sleeve.
	b) Hydro-test	As per IS-5120.



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	c) Dynamic Balancing Test	Shall be provided by the Bidder
(xxiv)	Performance Test	
	a) Test Code	Hydraulic Institute Standard.
	b) Tests to be done for determination of	Head-Capacity Curve, BHP-Capacity Curve and Efficiency-Capacity Curve and NPSH-Capacity Curve.
	c) Test to be carried out	On prototype model at rated speed.
	d) Test for satisfactory operation of pump at site	Required.
(xxv)	Instruments, alarm and Interlock	Shall be provided by the Bidder as per system requirements in line with Bid Specification and Drawings, enclosed with it.
(xxvi)	Suction Strainer along with flushing connection	Shall be provided by the Bidder.
(xxvii)	Start and stop facility provided both at local and panel	Shall be provided by the Bidder in conjunction with Auto Start Facility.
(xxviii)	Trip interlock	Shall be provided by the Bidder.
(xxix)	Accessories to be provided	
	a) Suction Strainer	Required. Material of construction of each strainer shall be SS316.
37.00.00	SAFETY EQUIPMENTS (BIDDER'S SCOPE)	Six (6) sets of safety equipment comprising PVC protection suits with hoods, rubber boots, face visors and thick PVC gauntlets shall also be provided by the bidder. Two (2) numbers personnel water drench shower/safety shower and eye bath near acid/ caustic storage tanks shall also be provided by the bidder.
