



Numaligarh Refinery Limited
Commercial Department

CORRIGENDUM NO. 1 TO NOTICE INVITING TENDER

Date : June 25, 2018

Name of Work: Supply of Centrifugal Pump as per Purchase Specification (Doc. no.: NRL-PS-201702 Rev.0 dtd. 15.02.2018).

Tender no. : OC43000156/JIN dated 14.06.2018

- ❖ Data sheet of the subject tender has been enclosed. Bidder may consider the same during submission of their quotation.

All other terms and conditions of the Tender Document remain unchanged.

GM (Commercial)I/c
Numaligarh Refinery Limited

CC:

→ NIC e-tender portal <https://eprocure.gov.in/eprocure/app>,

→ NRL website (www.nrl.co.in)

 HUMALIGARH REFINERY LIMITED		DOCUMENT NO.	TAG NO. 44-PA-CF-015		SHEET 1 OF 2	
		CLIENT	JOB NO.			
CENTRIFUGAL PUMP DATA SHEET (API 610 LATEST EDITION)						
☒ Scope option & information specified by purchaser Information Req'd. from & option left to vendor. Vendor to cross the selected option.						
PROJECT: OWS NRMT		SERVICE: OILY WATER SEWAGE PUMP (ELECTRIC MOTOR DRIVEN)				
MANUFACTURER *		SIZE *		QUANTITY : 1 NO		
CONSTRUCTION CODE: 1610		ANSI		OTHER (NPSA 20 / EQUIV.) *		NO STAGES *
MODEL *		SERIAL NO. *				
SIZE & TYPE VERTICAL CENTRIFUGAL PUMP (TYPE- VS 4)						
NO. PUMPS REQUIRED : 1		NO. MOTOR DRIVEN: 1		NO. DIESEL ENGINE DRIVEN NA		
PUMP ITEM NO. 44-PA-CF-015		MOTOR ITEM NO.		DIESEL ENGINE ITEM NO.		NA
MOTOR PROVIDED BY		PUMP VENDOR		DIESEL ENGINE PROVIDED BY		NA
MOTOR MOUNTED BY		PUMP VENDOR		DIESEL ENGINE MOUNTED BY		NA
OPERATING CONDITIONS				SITE CONDITIONS		
LIQUID HANDLED		HC CONTAINING SILT		CAPACITY (m3/hr)		TEMPERATURE (°C) MAX 38
PUMPING TEMP (°C)		AMB		MINIMUM NORMAL: MAX: 55		REL. HUMIDITY (%), MAX 85 MIN.
				DISCHARGE PRESSURE (kg/cm2a) : 4		ALTITUDE (m)
SPECIFIC GRAVITY AT PT		0.72 TO 1		SUCTION PRESSURE (kg/cm2a):		☐ INDOORS ☒ HEATED ☐ RECOIL
VAPOUR PRESSURE (kg/cm2a)		0.1 - 0.45		MAX 1 RATED		☐ OUTDOORS ☒ UNHEATED ☐ S
VISCOSITY (Cst)		0.4 TO 15 (MAX)		DIFF. PRESSURE (kg/cm2a) : 3		☐ WINTERIZATION ☐ TROPICALIZATION
CORROSION/EROSION CAUSED BY		NA		DIFF. HEAD (mlc): 30 @ top mounting flg		AREA CLASSIFICATION: HAZARDOUS
				NPSH AVAILABLE (m) : Flooded Suction		(ZONE-2 GAS GR. IIA & IIB CL T3)
				HYDROLOGIC POWER (kW) *		ATMOSPHERIC PRESSURE (kg/cm2a)
PERFORMANCE BY PUMP VENDOR*						
PROPOSAL CURVE *		*		MIN. CONTINUOUS FLOW(m3/hr) *		NPSH REQ'D (mH2O) *
SPEED (rpm)		*		THERMAL STABLE *		3% HEAD DROP (m) *
EFFICIENCY(%)		*		MAX. HEAD RATED IMPELLER(m) *		SUCTION SPECIFIC SPEED *
RATED POWER (Kw)		*		MAX. POWER RATED IMPELLER(kw) *		MAX. NOISE LEVEL (dba) 88 VIBRATION LEVEL *
CAPACITY AT BEP (m3/hr)		*				
CONSTRUCTION						
NOZZLES	SIZE	RATING	FACING	LOCATION	MISC. CONN	SIZE LOCATION
SUCTION	*	*	*	*	DRAIN	* *
DISCHARGE	*	150# (N-4)	RF sm. fin.	*	VENT	* *
BAL DRUM					PRESS. GAUGE	* *
					WARM UP	* *
CASING MOUNT			IMPELLER DIAMETER RATED: * MAX: * MIN: *			
☐ CENTERLINE	☐ FOOT	ROTATION VIEWD FROM CPLG *		BEARING (TYPE and NO) BY VENDOR		
☐ NEAR CENTERLINE	☐ BRACKET	☐ CW ☐ CCW		RADIAL BALL THRUST BALL *		
☐ VERTICAL	☐ INLINE	IMPELLER MOUNTED		LUBRICATION TYPE (NOTE-11) ☐ API 614		
☐ VERTICAL BARREL	☐ SUMP	☐ BTWN BRGS ☐ OVERHUNG		☐ GREASE ☐ RING OIL ☐ OIL MIST		
CASING SPLIT ☐ AXIAL ☒ RADIAL	PACKING		☐ FLOODED ☐ FLINGER ☐ PRESSURE			
CASING TYPE : BY VENDOR			MANUFACTURER *		COUPLING & GUARD BY VENDOR *	
☐ DIFFUSER	☐ STAGG. VOLUTE	TYPE *		MANUFACTURER *		
☐ SINGLE VOLUTE	☐ DOUBLE VOLUTE	SIZE/NO. RINGS		☐ TYPE ☐ FLEXIBLE *		
☐ BARREL	☐ VERT. DOUBLE	☐ MECHANICAL SEAL ☒ PACKING		DRIVER HALF COUPLING MOUNTED BY		
MAXIMUM ALLOWABLE PRESSURE (kg/cm2g) *			MANUFACTURER *		☒ PUMP MFG ☐ DRIVER MFG ☐ PURCHASER	
AT MAX. PUMP T.			MODEL NO. *		GLAND TYPE/MAT'L *	
HYDROTEST PRESSURE (kg/cm2g) *			MFG CODE *		GLAND PLATE TAPS REQ'D *	
			☒ MOUNTING PLATE		☐ QUENCH ☐ FLUSH ☐ DRAIN ☐ VENT	
			☒ MOUNTING PLATE GASKET		☒ MOUNTING STOOL	
			☒ FOUNDATION BOLTS		☒ BALANCING DEVICE	
					☒ SUCTION STRAINER	
MATERIALS (BY VENDOR)						
Material Class (API-610): S-5			☒ CASE WEAR RINGS 11-13% Chr. Stl Hardened		BASEPLATE	
☒ CASING KCS			☒ IMPELLER WEAR RINGS 11-13% Chr. Stl		☐ MATERIAL / TYPE	
☒ IMPELLER KCS			☒ SHAFT		☐ API 610 STD NO.	
SELF LUBRICATING BEARING BUSH *					☒ SKID SIZE (LxWxH) * WT(kg) *	
NOTES:						
1. * denotes data to be furnished / confirmed by pump vendor.						
2. Vendor to complete the data sheet and submit along with the offer.						
3. Material Certificate of conformance is required.						
4. Vendor shall supply suitable companion flanges in carbon steel material.						
5. Vendor to provide corrosion resistant material coupling guard.						
6. Pump, Engine, Controller (shall be housed in control pannel) and other associated auxiliaries shall be mounted on common base frame.						
7. Surface preparation and painting as per manufacture's standard or as per NRL standard.						
8. Casing design pressure shall be 17kg/cm2 (G) @ 65 Deg C.						
10. Pump will be installed outdoors. Accordingly vendor has to take all precautions.						
11. Oil lubricated.						
12. The motor along with start-stop push button and gland should be Flame Proof (FLP-Exd IIA/IIB)						
13. Stainless steel nameplate is required stating at least the following information: Purchase Order number, Pump Description, Pump Duty Point, Pump Driver Power, Supplier's name and serial number, Size and type of pump (including the impeller size), Maximum allowable working temperature and pressure in SI unit.						
14. Manual Control Stop/Start Panel shall be furnished with pump.						
15. Start up/commissioning spare parts and list for 2 year operational spare parts should be supplied with pump.						
16. Vendor has to submit QAP.						
17. The supplier shall be responsible for providing preparation for shipment.						
18. Vendor to consider MOC of the Pump internals based on abrasive nature of liquid due to presence of Silt.						

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PROJECT : OWS NRMT			SERVICE: OILY WATER SEWAGE PUMP (ELECTRIC MOTOR DRIVEN)		
AUXILIARY PIPING					
☐ SEAL FLUSH PIPING PLAN *		☐ AUXILIARY FLUSH PLAN *		☒ COOLING WATER PIPING PLAN	
☐ TUBING ☐ CARBON STEEL		☐ TUBING ☐ CARBON STEEL		☐ TUBING ☐ CARBON STEEL	
☐ PIPE ☐ STAINLESS STEEL		☐ PIPE ☐ STAINLESS STEEL		☐ PIPE ☒ STAINLESS STEEL	
		☐ EXT. SEAL FLUSH FLUID		☐ TOTAL COOLING WATER REQ'D (m3/hr)	
PIPING ASSEMBLY		(m3/hr) (kg/cm2a)		☐ PACKING COOLING INJECTION REQ'D	
☐ THREADED ☐ FLANGED		☐ PRESS. SWITCH ☐ PRESS. IND.		☐ (L/hr) ☐ (kg/cm2a)	
☐ SEAL WELDED ☐ SOCKET WELDED		☐ SIGHT FLOW INDICATOR		☐ RESERVOIR SIZE	
REMARKS:				☐ LEVEL GAUGE	
				☐ HEAT EXCHANGER	
				☐ TEMPERATURE INDICATOR	
INSPECTION & TESTING (REFER REMARKS 1)					
TEST		NON WIT. WIT. OBSERVED		☒ CASTING REPAIR PROCED. APPRVL. REQD.	
PERFORMANCE		☐ ☒ ☐		☐ INSPECTION REQD. FOR NOZZLE WELDS	
IMPELLER BALANCING		☒ ☐ ☐		☐ MAG. PARTICLE ☐ DYE PEN.	
HYDRO		☒ ☐ ☐		☐ RADIOGRAPH ☐ ULTRASONIC	
NPSH		☐ ☒ ☐		☒ MATERIAL CERT. REQ'D FOR	
☒ SHOP INSPECTION		☒ SHAFT		☐ CASING ☒ IMPELLER	
☐ DISMANTLE & INSPECT AFETR TEST		☒ GOVERNOR TEST		☐ INSPECTION REQD. FOR CASTING	
☒ PERFORMANCE TEST OF ENGINE		☒ OVERLOAD TEST		☐ RADIOGRAPH ☒ ULTRASONIC	
☒ SPEED Vs BHP				☒ DYE PENETRANT	
☒ SPECIFIC FULE Vs BHP					
MOTOR DRIVER By Vendor (Refer Remarks 2)					
☒ POWER (Kw) *		☒ TEMPERATURE RISE (°C) CLASS B		☒ BEARINGS Antifriction / thrust *	
☒ REVS(rpm) *		☒ FULL LOAD AMPS *		☒ LUBE *	
☒ FRAME *		☒ LOCKED ROTOR AMPS *		VERTICAL SHAFT ☐ SOLID ☒ FLOW	
☒ VILOTS/PHASE/CYCLE By NRL		☒ INSULATION *		☐ VERTICAL THRUST CAPACITY(kg)	
☒ TYPE SQUIRREL CAGE		☒ MANUFACTURER		UP * DOWN *	
☒ ENCLOSURE TYPE IP-55		☒ WINDING & BEARING RTD			
☒ MOTOR HEATER YES		☐ FIRE PUMP CONTROLLER			
VERTICAL PUMPS					
☒ PIT/SUMP DEPTH (m) *		GUIDE BUSHINGS		FLOAT & ROD	
☒ PUMP LENGTH (m) *		☐ BOWL ☒ LINE SHAFT		☒ CS ☐ SS ☐ BRZ ☐ NONE	
☒ MIN.SUBMERGENCE REQ'D (m) *		GUIDE BUSHINGS LUBE		☒ PUMP THUST(kg)	
COLUMN PIPE/SUCTION STRAINER: CS/SS		☐ WATER ☐ OIL ☐ GREASE		UP DOWN	
☒ FLANGED ☐ THREADED		☐ FLOAT SWITCH		. @ MIN FLOW * *	
LINE SHAFT		FLUSHING ☒ SELF ☐ EXT		. @ DESIGN FLOW * *	
☐ OPEN ☐ ENCLOSED				. @ RUN OUT * *	
WEIGHTS					
MOTOR DRIVEN (NA)				REMARKS	
WEIGHT OF PUMP (kg) *					
WEIGHT OF BASEPLATE (kg) *					
WEIGHT OF MOTOR (kg) *					
WEIGHT OF GEAR (kg) *					
WEIGHT OF CONTROLLER (kg) *					
TOTAL WEIGHT (kg)					
REMARKS					
1) INSPECTIONS AND TESTS (EACH PUMP)					
SHOP TEST / INSPECTION		REQD.	WITNESSED		
Material Certificates		Yes	-----		
Performance/Sound Level		Yes	Yes		
Dimensions and Inspection after test		Yes	Yes		
Hydrostatic		Yes			
2) Motor shall be installed at outdoors and accordingly vendor has to take all precautions .					

