



نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

شماره پیمان:

MECHANICAL DATA SHEETS FOR FIRE WATER JOCKEY PUMPS

053-073-9184

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0028	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: 1 از 9

## طرح نگهداشت و افزایش تولید 27 مخزن

### MECHANICAL DATA SHEETS FOR FIRE WATER JOCKEY PUMPS (P-2302 A/B)

نگهداشت و افزایش تولید میدان نفتی بینک

D03	OCT.2022	AFC	H. Adineh	M. Fakharian	M. Mehrshad	
D02	JUL. 2022	IFA	H. Adineh	M. Fakharian	M. Mehrshad	
D01	APR. 2022	IFA	H. Adineh	M. Fakharian	M. Mehrshad	
D00	FEB. 2022	IFC	H. Adineh	M. Fakharian	M. Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2 CLIENT Doc. Number: F0Z-708859

status:

- IDC: Inter-Discipline Check
- IFC: Issued For Comment
- IFA: Issued For Approval
- AFD: Approved For Design
- AFC: Approved For Construction
- AFP: Approved For Purchase
- AFQ: Approved For Quotation
- IFI: Issued For Information
- AB-R: As-Built for CLIENT Review
- AB-A: As-Built -Approved



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D03	0028	DT	ME	120	PEDCO	GCS	BK

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04
1	x	x	x	x	
2	x	x	x	x	
3	x		x	x	
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GENERAL NOTES D03

- 1 Vendor shall fill in the blanks and return the completed data sheet along with Motor data sheet, "DOC NO.: BK-GCS-PEDCO-120-EL-DT-0008 & 0009 with his proposal.
- 2 Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.
- 3 Vendor is requested to confirm the material, or propose appropriate alternative.
- 4 For Instrumentation, Project specification 'Specification For Instrument and Control of package Unit System (PU)' Doc. No. BK-GNRAL-PEDCO-000-IN-SP-0004, shall be followed.
- 5 Mechanical seal data sheet shall fill in by vendor as per API 682, 4th edition.
- 6 NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1.
- 7 The Tie-in flanges shall conform to ASME B-16.1.
- 8 Pump drain shall be terminated at skid edge with flange connection and valved.
- 9 Supplier to indicate which minimum flow pumps can achieve.
- 10 Nozzle loads shall be 2 times the loads shown in API 610 11th Edition.
- 11 Electrical motor shall be rated for the end of curve.
- 12 The Suction line size is 2 " and discharge line is 2 " .
- 13 Pump Manufacturer shall supply all instrumentation for mechanical seals as per API 682 4th Edition and project requirements.
- 14 Based on project instrumentation specification, these equipments are classified as Type C. Electro pump shall include a dedicated controller/ starter panel installed on pump skid as per NFPA 20 (2019). Pressure switch and pressure sensing line and its accessories are in vendor scope of work and supply.
- 15 Welding repair procedures shall be submitted for approval.
- 16 If pump is self venting there is no need for vent .
- 17 For information on site conditions refer to Process Basis of Design document; Doc.No: BK-GNRAL-PEDCO-000-PR-DB-0001., any required protection for pumps in this regard shall be considered by pump manufacturer.
- 18 Ultrasonic Test shall be performed for forged shaft.
- 19 Couplings shall be dry, flexible and spacer type.
- 20 For electrical motor descriptions, refer to 'Specification For LV Induction Motors' Doc. No. BK-GNRAL-PEDCO-000-EL-SP-0010.
- 21 A local control panel shall be considered by vendor to be located next to the pumps as per "Specification For Fire Water Network", Doc.No.BK-GCS-PEDCO-120-SA-PI-0001. Pump LCP shall be designed to manage all required monitoring and control signals , as minimum in accordance with "P&ID For Fire Water Network", Doc.No.BK-GCS-PEDCO-120-SA-PI-0001.
- 22 Pressure sensing lines are in the vendor's scope of supply.
- 23 Design pressure is 15.4 barg also as per NFPA 20 standard the hydrotest pressure shall not be less than 17.24 barg.
- 24 Electrical motor shall be rated for 150% of rated capacity. In addition vendor shall follow project specification for rating of motor power .
- 25 The pumps shall furnish not less than 150% of rated capacity at not less than 65% of rated head.





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D03	0028	DT	ME	120	PEDCO	GCS	BK

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CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 2 of 6)

APPLICABLE TO: <u>PROPOSAL</u>	APPLICABLE NTL/INTNL STANDARD: <u>NFPA20 (2019) &amp; IPS-M-PM-125</u>
FOR <u>NISOC</u>	UNIT _____
SITE <u>BINAK Gas Compressor Station</u>	SERVICE <u>Fire Water Jockey Pumps</u>
NO. REQ <u>2 (1+1)</u>	TYPE <u>OH2 (V.T.A)</u>
PUMP SIZE _____	No. STAGES <u>1</u>
MANUFACTURER _____	MODEL <u>V.T.A.</u>
	SERIAL NO. <u>V.T.A.</u>

LIQUID CHARACTERISTICS

LIQUID TYPE OR NAME : <u>Water</u>	Units	Maximum	Minimum	Note	SERVICE : <u>INTERMITTENT</u>
VAPOR PRESSURE :	bara	<u>0.0087</u>	<u>0.1219</u>	Max & min values refer only to the property listed	• IF INTERMITTENT NO. OF STARTS : _____
DENSITY :	kg/m <sup>3</sup>	<u>997</u>			PUMPS OPERATE IN: _____
SPECIFIC HEAT :	kJ/kgC	<u>4.186</u>			CORROSION DUE TO : (6.12.1.9) _____
VISCOSITY :	cP	<u>1</u>			EROSION DUE TO : (6.12.1.9) _____
<b>OPERATING CONDITIONS (6.1.2)</b>					H2S CONCENTRATION (ppm) : (6.12.1.12) _____
	Units	Maximum	Rated	Normal	Min
<b>C.L. Impeller</b>					
NPSH <sub>A</sub> Datum:					
PUMPING TEMPERATURE :	°C	<u>50</u>			<u>5</u>
FLOW :	m <sup>3</sup> /hr		<u>15.0</u>		
DISCHARGE PRESSURE : (6.3.2)	barg		<u>10.4</u>		
SUCTION PRESSURE :	barg	<u>0.83</u>	<u>0.81</u>		<u>0.08</u>
DIFFERENTIAL PRESSURE :	bar		<u>10.3</u>		
DIFFERENTIAL HEAD :	m		<u>105.0</u>		
NPSH <sub>A</sub> :	m		<u>8.8</u>		
HYDRAULIC POWER:	KW		<u>4.50</u>		
					CHLORIDE CONCENTRATION (ppm) : _____
					PARTICULATE SIZE (DIA IN MICRONS) _____
					PARTICULATE CONCENTRATION (PPM) _____

SITE AND UTILITY DATA

LOCATION: <u>OUTDOOR</u> <u>UNHEATED</u> <u>UNDER ROOF</u>	COOLING WATER :
MOUNTED AT : <u>TROPICALISATION REQ'D</u>	TEMP _____
ELECTRIC AREA CLASSIFICATION: (6.1.22) ZONE <u>SAFE</u>	PRESS. _____
GROUP _____ TEMP CLASS _____	SOURCE _____
SITE DATA :	COOLING WATER CHLORIDE CONCENTRATION: _____
ELEVATION (MSL) : <u>12.5</u> m	BAROMETER : <u>990.77</u> mBar
RANGE OF DESIGN TEMPS: MIN / MAX <u>5</u> / <u>85</u> °C	INSTRUMENT AIR :
RELATIVE HUMIDITY: MIN / MAX <u>0</u> / <u>100</u> % (@ 25.6 °C)	STEAM
UNUSUAL CONDITIONS: <u>NA</u>	TEMP _____
UTILITY CONDITIONS :	PRESS. _____
ELECTRICITY :	DRIVERS _____
VOLTAGE <u>400</u>	HEATING _____
PHASE <u>3</u>	CONTROL _____
HERTZ <u>50</u>	SHUTDOWN _____

PERFORMANCE

DRIVER (7.1.5) (NOTES 11,20)

PROPOSAL CURVE NO. _____ RPM _____	Driver Type <u>INDUCTION MOTOR</u>
As Tested Curve No. _____	GEAR <u>NO</u>
IMPELLER DIA: RATED _____ MAX. _____ MIN. _____ mm	VARIABLE SPEED REQUIRED <u>NO</u>
RATED POWER _____ Kw EFFICIENCY _____ (%)	SOURCE OF VARIABLE SPEED _____
RATED CURVE BEP FLOW (at rated impeller dia) _____ m <sup>3</sup> /hr	OTHER _____
MIN FLOW : _____ kJ/Nm <sup>3</sup> _____ m <sup>3</sup> /hr	MANUFACTURER _____
PREFERRED OPERATING REGION (6.1.11) _____ to _____ m <sup>3</sup> /hr	NAMEPLATE POWER _____ KW
ALLOWABLE OPERATING REGION _____ to _____ m <sup>3</sup> /hr	Nominal RPM _____
MAX HEAD @ RATED IMPELLER _____ m	RATED LOAD RPM _____
MAX POWER @ RATED IMPELLER _____ kW	FRAME OR MODEL _____
NPSH3 AT RATED FLOW : _____ m	ORIENTATION <u>HORIZONTAL</u>
CL PUMP TO U/S BASEPLATE _____ m	LUBE _____
NPSH MARGIN AT RATED FLOW : _____ m	BEARING TYPE: _____
SPECIFIC SPEED (6.1.9) _____	RADIAL _____ / _____
SUCTION SPECIFIC SPEED LIMIT _____	THRUST _____ / _____
SUCTION SPECIFIC SPEED _____	STARTING METHOD <u>D.O.L /Open delivery valve</u>
MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14) <u>85</u> (dBA) @ 1 m	SEE DRIVER DATA SHEET <u>Note 1</u>
EST MAX SOUND PRESS. LEVEL _____ (dBA)	Max Voltage Variation <u>±5%</u>
MAX. SOUND POWER LEVEL REQD (6.1.14) _____	Max Frequency Variation <u>±2%</u>
EST MAX SOUND POWER LEVEL _____	Max Voltage and Frequency Variation together <u>±5%</u>



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BK	GCS	PEDCO	120	ME	DT	0028	D03

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CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 3 of 6)

CONSTRUCTION

API PUMP TYPE: OH2 [Based on API 610 definitions]

NOZZLE CONNECTIONS: (6.5.5) **NOTES 7, 12**

Size	Facing	Rating	Position
SUCTION	FF	125	END
DISCHARGE	FF	125	TOP

Pressure casing AUX. CONNECTIONS: (6.4.3.2)

No.	Size	Type	Facing	Rating	Posn.
BAL./LEAK OFF					
DRAIN					
VENT					
PRESSURE GAGE					
TEMP GAGE					
WARM-UP LINE					

Drain Valve Supplied By \_\_\_\_\_ **SUPPLIER**

DRAINS MANIFOLDED \_\_\_\_\_ **YES**

VENT Valve Supplied By \_\_\_\_\_ **SUPPLIER**

VENTS MANIFOLDED \_\_\_\_\_ **YES**

THREAD. CONS FOR PIPELINE SERVICE & < 50°C (6.4.3.2) \_\_\_\_\_ **NO**

SPECIAL FITTINGS FOR TRANSITIONING (6.4.3.3) \_\_\_\_\_ **NO**

CYLINDRICAL THREADS REQUIRED (6.4.3.8) \_\_\_\_\_ **NO**

GUSSET SUPPORT REQUIRED \_\_\_\_\_ **YES** If Needed

MACHINED AND STUDDED CONNECTIONS (6.4.3.12) \_\_\_\_\_ **NO**

VS 6 DRAIN \_\_\_\_\_ **N/A**

DRAIN TO SKID EDGE \_\_\_\_\_ **YES**

CASING MOUNTING: \_\_\_\_\_

CASING TYPE: (6.3.10) \_\_\_\_\_ **CENTERLINE**

OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) \_\_\_\_\_ **SINGLE VOLUTE**

CASE PRESSURE RATING:

MAWP: (6.3.5) \_\_\_\_\_ By vendor barg @ °C

HYDROTEST: \_\_\_\_\_ **1.5\*MAWP** barg @ °C

HYDROTEST OH PUMP AS ASSEMBLY \_\_\_\_\_ **YES**

SUCT'N PRESS. REGIONS DESIGNED FOR MAWP \_\_\_\_\_ **YES**

ROTATION: (VIEWED FROM COUPLING END) \_\_\_\_\_

- IMPELLERS INDIVIDUALLY SECURED: \_\_\_\_\_
- BOLT OH 3/4/5 PUMP TO PAD / FOUNDATION: \_\_\_\_\_
- PROVIDE SOLEPLATE FOR OH 3/4/5 PUMPS: \_\_\_\_\_

ROTOR:

SHAFT FLEXIBILITY INDEX (SFI) (9.1.1.3) \_\_\_\_\_

First Critical Speed Wet (Multi stage pumps only) \_\_\_\_\_

COMPONENT BALANCE TO ISO 1940 G1.0 \_\_\_\_\_ **NO**

SHRINK FIT -LIMITED MOVEMENT IMPELLERS (9.2.2.3) \_\_\_\_\_

COUPLING:(7.2.3) (7.2.13.0) **NOTE 19** \_\_\_\_\_

MANUFACTURER \_\_\_\_\_

MODEL \_\_\_\_\_

RATING (POWER/100 RPM) \_\_\_\_\_

SPACER LENGTH \_\_\_\_\_ mm

SERVICE FACTOR \_\_\_\_\_ **Min 1.5**

RIGID \_\_\_\_\_ **NO**

COUPLING WITH HYDRAULIC FIT (7.2.10) \_\_\_\_\_

COUPLING BALANCED TO ISO 1940-1 G6.3 (7.2.3) \_\_\_\_\_ **YES**

COUPLING WITH PROPRIETARY CLAMPING DEVICE (7.2.11) \_\_\_\_\_

COUPLING IN COMPLIANCE WITH (7.2.4) \_\_\_\_\_ **API 610 compliant**

COUPLING GUARD STANDARD PER (7.2.13.a) \_\_\_\_\_ **ISO 14120**

Window on Coupling Guard \_\_\_\_\_

BASEPLATE

API BASEPLATE NUMBER: \_\_\_\_\_

BASEPLATE CONSTRUCTION (7.3.14) \_\_\_\_\_

BASEPLATE DRAINAGE (7.3.1) \_\_\_\_\_ **Entire Baseplate Drain Pan**

MOUNTING: \_\_\_\_\_

NON-GROUT CONSTRUCTION: (7.3.13) \_\_\_\_\_

VERTICAL LEVELING SCREWS: \_\_\_\_\_ **REQUIRED**

LONGITUDINAL DRIVER POSITIONING SCREWS: \_\_\_\_\_ **REQUIRED**

SUPPLIED WITH: \_\_\_\_\_

- GROUT AND VENT HOLES \_\_\_\_\_ **YES**
- DRAIN CONNECTION \_\_\_\_\_ **YES**

MOUNTING PADS SIZED FOR BASEPLATE LEVELING (7.3.5) \_\_\_\_\_ **YES**

MOUNTING PADS TO BE MACHINED (7.3.6) \_\_\_\_\_ **YES**

PROVIDE SPACER PLATE UNDER ALL EQUIPMENT FEET \_\_\_\_\_ **YES**

OTHER \_\_\_\_\_

REMARKS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**MATERIAL (6.12.1.1)**

APPENDIX H CLASS \_\_\_\_\_ **I-2** **NOTE 3**

MIN DESIGN METAL TEMP (6.12.4.1) \_\_\_\_\_ **5** °C

REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1) \_\_\_\_\_

Applicable Hardness Standard (6.12.1.12.3) \_\_\_\_\_

BARREL: \_\_\_\_\_

CASE: \_\_\_\_\_

DIFFUSERS \_\_\_\_\_

IMPELLER: \_\_\_\_\_

IMPELLER WEAR RING: \_\_\_\_\_

CASE WEAR RING: \_\_\_\_\_

SHAFT: \_\_\_\_\_

Bowl (if VS-type) \_\_\_\_\_

Inspection Class (**Note 2**) \_\_\_\_\_

BEARINGS AND LUBRICATION (6.10.1.1) (VTC)

BEARING (TYPE / NUMBER): (6.11.4)

RADIAL ROLLER / ANTI-FRICTION

THRUST BALL / ANTI-FRICTION

REVIEW AND APPROVE THRUST BEARING SIZE: (9.2.5.2.4) \_\_\_\_\_

LUBRICATION: (6.10.2.2) (6.11.3) (9.2.6) \_\_\_\_\_ **RING OIL**

PRESSURE LUBE SYSTEM TO ISO 10438- (9.2.6.5) \_\_\_\_\_

ISO 10438 DATA SHEETS ATTACHED \_\_\_\_\_

Pressurized Lube Oil System mtd on pump baseplate \_\_\_\_\_

Location of Pressurized Lube Oil System mounted on baseplate: \_\_\_\_\_

INTERCONNECTING PIPING PROVIDED BY \_\_\_\_\_ **Supplier**

OIL VISC. ISO GRADE \_\_\_\_\_ **VG**

CONSTANT LEVEL OILER: \_\_\_\_\_





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شماره صفحه: 8 از 9

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BK	GCS	PEDCO	120	ME	DT	0028	D03

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 5 of 6)

SURFACE PREPARATION AND PAINT

MANUFACTURER'S STANDARD	_____
OTHER (SEE BELOW)	_____
SPECIFICATION NO.	<b>BK-GNRL-PEDCO-000-PI-SP-0006, "Specification for Painting"</b>
<b>PUMP:</b>	
PUMP SURFACE PREPARATION	<u>SA 2 1/2</u>
PRIMER	<u>AS PER PROJECT PAINTING SPEC.</u>
FINISH COAT	<u>AS PER PROJECT PAINTING SPEC.</u>
<b>BASEPLATE:</b>	
BASEPLATE SURFACE PREPARATION	<u>SA 2 1/2</u>
PRIMER:	<u>AS PER PROJECT PAINTING SPEC.</u>
FINISH COAT	<u>AS PER PROJECT PAINTING SPEC.</u>
DETAILS OF LIFTING DEVICES	_____
<b>SHIPMENT: (8.4.1)</b>	<u>EXPORT</u>
EXPORT BOXING REQUIRED	<u>YES</u>
OUTDOOR STORAGE MORE THAN 6 MONTHS	<u>YES</u>
<b>SPARE ROTOR ASSEMBLY PACKAGED FOR:</b>	
ROTOR STORAGE ORIENTATION (9.2.8.2)	_____
SHIPPING & STORAGE CONTAINER FOR VERT STORAGE (9.2.8.3)	_____
N <sub>2</sub> PURGE (9.2.8.4)	_____
<b>SPARE PARTS</b>	
START-UP	<u>YES</u>
NORMAL MAINTENANCE	<u>YES</u>

ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL

OTHER PURCHASER REQUIREMENTS

COORDINATION MEETING REQUIRED (10.1.3)	<u>YES</u>
MAXIMUM DISCHARGE PRESSURE TO INCLUDE	_____
OPERATION TO TRIP SPEED	_____
MAX DIA. IMPELLERS AND/OR NO OF STAGES	<u>YES</u>
CONNECTION DESIGN APPROVAL (9.2.1.4)	<u>YES</u>
TORSIONAL ANALYSIS / REPORT (6.9.2.10)	<u>NO</u>
PROGRESS REPORTS	<u>YES</u>
OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5)	_____
ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1)	<u>YES</u>
LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3)	<u>NO</u>
MODAL ANALYSIS REQUIRED (9.3.9.2)	_____
DYNAMIC BALANCE ROTOR (6.9.4.4)	<u>YES</u>
INSTALLATION LIST IN PROPOSAL (10.2.3.1)	<u>YES</u>
VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3)	<u>NO</u>
TRANSIENT TORSIONAL RESPONSE	_____
BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6)	_____
IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e)	_____
CASING RETIREMENT THICKNESS DRAWING (10.3.2.3)	_____
FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8)	_____
INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3)	_____
CONNECTION BOLTING (7.5.1.7)	_____
CADMIUM PLATED BOLTS PROHIBITED	_____
VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.c)	_____
VENDOR SUBMIT TEST PROCEDURES (8.3.1.1)	<u>YES</u>
SUBMIT INSPECTION CHECK LIST (8.1.5) <b>NOTE 2</b>	<u>YES</u>

TEST

SHOP INSPECTION (8.1.1)	<u>YES</u>
PERFORMANCE CURVE	_____
& DATA APPROVAL PRIOR TO SHIPMENT.	<u>YES</u>
TEST WITH SUBSTITUTE SEAL (8.3.3.2.b)	_____
MATERIAL CERTIFICATION REQUIRED	_____
CASING	<u>YES</u>
SHAFT	<u>YES</u> (6.12.1.8) IMPELLER
OTHER	<u>YES</u> Casing and impeller Wear ring
CASTING REPAIR WELD PROCEDURE APPR REQD	<u>YES</u>
INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d)	_____
LIQUID PENETRANT	<u>YES</u> MAG PARTICLE
ULTRASONIC	_____ RADIOGRAPHY
INSPECTION REQUIRED FOR CASTINGS	_____
LIQUID PENETRANT	<u>YES</u> MAG PARTICLE
ULTRASONIC ( <b>NOTE 18</b> )	<u>YES</u> RADIOGRAPHY
HARDNESS TEST REQUIRED (8.2.2.7)	_____
ADDNL SUBSURFACE EXAMINATION (6.12.1.5) (8.2.1.3)	_____
FOR METHOD	_____
PMI TESTING REQUIRED (8.2.2.8)	_____
COMPONENTS TO BE TESTED	_____
RESIDUAL UNBALANCE TEST (I.4.1.2)	_____
NOTIFICATION OF SUCCESSFUL SHOP	<u>YES</u>
PERFORMANCE TEST (8.1.1.c) (8.3.3.5)	<u>YES</u>
BASEPLATE TEST (7.3.21)	_____
HYDROSTATIC	<u>WIT</u>
HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)	_____
PERFORMANCE TEST	<u>WIT</u>
TEST IN COMPLIANCE WITH (8.3.3.2)	<u>NFPA 20</u>
TEST DATA POINTS TO (8.3.3.3)	<u>NFPA 20</u>
TEST TOLERANCES TO (8.3.3.4)	<u>TABLE 16</u>
NPSH (8.3.4.3.1) (8.3.4.3.4) ( <b>NOTE 6</b> )	<u>WIT</u>
NPSH-1ST STG ONLY (8.3.4.3.2)	_____
NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3)	_____
TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6)	_____
RETEST ON SEAL LEAKAGE (8.3.3.2.d)	<u>OBSERVE</u>
RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)	_____
COMPLETE UNIT TEST (8.3.4.4.1)	<u>WIT</u>
SOUND LEVEL TEST (8.3.4.5)	<u>WIT</u>
CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6)	<u>OBSERVE</u>
LOCATION OF CLEANLINESS INSPECTION	_____
NOZZLE LOAD TEST	_____
CHECK FOR CO-PLANAR MOUNTING PAD SURFACES	_____
MECHANICAL RUN TEST UNTIL OIL TEMP STABLE	_____
4 HR. MECH RUN AFTER OIL TEMP STABLE (8.3.4.2.1)	<u>WIT</u>
4 HR. MECH RUN TEST (8.3.4.2.2)	_____
BRG HSG RESONANCE TEST (8.3.4.7)	_____
STRUCTURAL RESONANCE TEST (9.3.9.2)	_____
REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST (9.2.7.5)	_____
AUXILIARY EQUIPMENT TEST (8.3.4.6)	_____
EQUIPMENT TO BE INCLUDED IN AUXILIARY TESTS	_____
LOCATION OF AUXILIARY EQUIPMENT TEST	_____
IMPACT TEST	PER EN 13445
REMOVE CASING AFTER TEST	PER ASME SECTION VIII



