

REFERENCE DRAWINGS:

1440-50-PR-LI-020-6001 P&ID DRAWING LIST & REFERENCE DOCUMENTS  
1440-50-MU-DG-020-0001 THRU  
0005 & 0007 THRU 0009 P&ID GENERAL LEGEND

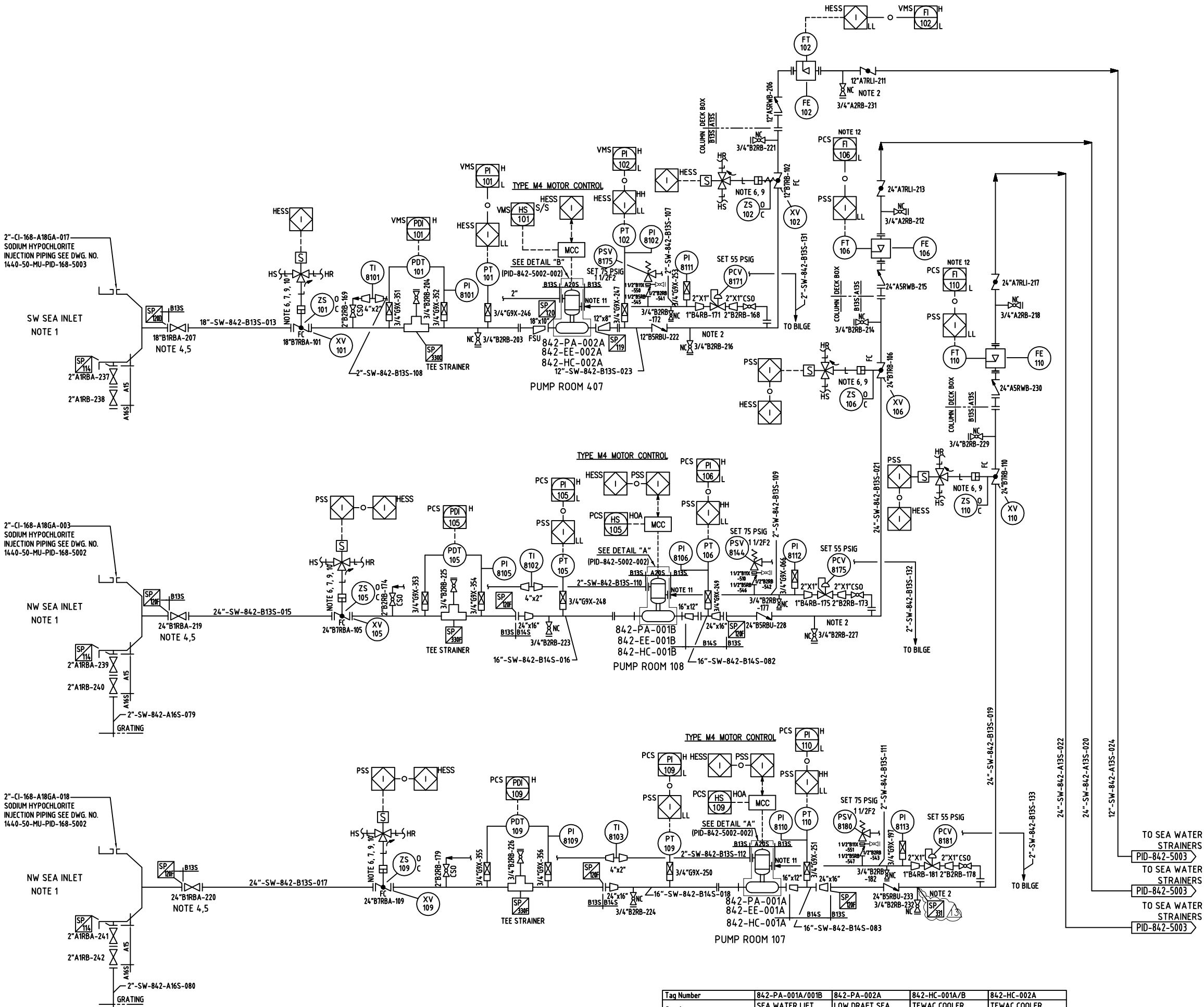
GENERAL NOTES:

- A. DELETED.
- B. ALL INSTRUMENTS ON THIS DRAWING WILL BE READ AS INSTRUMENT, SYSTEM ID, SEQ. No.  
i.e. FI 208 WILL BE READ AS FI 842 208, UNLESS OTHERWISE NOTED.  
ALL MANUAL VALVE TAGS ON THIS DRAWING TO BE READ AS : LLLL842-000
- C. NO SEAWATER COOLING OR FIREWATER PIPING SHOULD BE ROUTED THROUGH THE BOX BOTTOM.

NOTES:

1. SEA INLETS TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MOBILE DRILLING UNITS 2001 SECT. 4.2.2/21. STRAINER AT SHELL TO HAVE A FREE AREA OF AT LEAST 1.5 TIMES THE AREA OF THE INLET VALVE AND SHALL PREVENT PASSAGE OF OBSTACLES IN A FORM OF A BALL EQUAL TO AND LARGER THAN DIA. 20 MM. THE SEA INLET SHALL BE DESIGNED TO FIT PORTABLE OUTSIDE HATCH MOUNTED BY DIVER OR ROV.
2. VENT AND DRAIN VALVES PROVIDED FOR DRAINING VERTICAL RISER BETWEEN CHECK VALVES.
3. DELETED.
4. MANUAL OPERATED SEA SIDE VALVE TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MOBILE DRILLING UNITS 2001 SECT. 4.2.2/21. THE VALVE CONTROL AND POSITION INDICATION SHALL BE READILY ACCESSIBLE. THE VALVE TO BE MARKED "SEA DIRECT".
5. PROPER ISOLATION OF SHIP SIDE VALVE TO BE PROVIDED BY USING ISOLATION GASKETS AND ISOLATION SET FOR BOLTING ON BOTH SIDES OF THE VALVE.
6. THE VALVE ACTUATORS AND POSITION TRANSMITTERS ARE TO BE FUNCTIONAL IN A SUBMERGED CONDITION AT A WATER PRESSURE OF UP TO 60M WC (200' WC). POSITION SWITCHES MAY BE CONSIDERED AS AN ALTERNATE IF POSITION TRANSMITTERS SUITABLE FOR THE APPLICATION ARE NOT AVAILABLE.
7. PUMP SHOULD NOT BE ALLOWED TO START IF SUCTION VALVE IS CLOSED.
8. DELETED.
9. VALVE AND ACTUATOR TO BE OPERABLE IN FLOODED CONDITION. IN CASE OF CONTROL FAILURE VALVE TO FAIL CLOSE AND A MEANS TO BE PROVIDED FOR LOCAL MANUAL EMERGENCY OPERATION. VALVE TO HAVE LOCAL OPEN/CLOSE INDICATOR.
10. REMOTE OPERATED SEA SIDE VALVE TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MDU 2001 SECT. 4.2.2/21. THE VALVE CONTROL AND POSITION INDICATION SHALL BE READILY ACCESSIBLE. MEANS FOR LOCAL EMERGENCY OPERATION IN CASE OF LOSS OF REMOTE HYDRAULIC CONTROL SHALL BE PERMANENTLY INSTALLED. THE VALVE TO BE MARKED "SEA DIRECT".
11. FLANGE AT TEWAC COOLER INLET AND OUTLET IS 150#. PIPE SPEC BREAK IS AT WN OF FLANGE FROM B13S TO A20S.
12. HIGH FLOW ALARM DELETED PER MOC 1024.

WP PROJ. No.15646105-11601 WP DOC. No.156461-10-PR-PID-0071					
2016.04.28	AS-BUILT PER MOC #15-0216	MPL	LM	NA	CMK
2010.01.28	AS-BUILT PER MOC #09-0287	M.M.	D.R.	K.S.	F.X.R.
2007.04.13	REVISED	S.R.S.	D.G.H.	M.B.	DLB.
2007.02.08	REVISED	S.R.S.	D.G.H.	M.B.	DLB.
REV. NO.	DATE	REVISION	DWN	CHK	CHIEF
CLIENT					
PROJECT TITLE <b>BP ATLANTIS FIELD DEVELOPMENT</b> SEMI-SUBMERSIBLE PRODUCTION UNIT					
DRAWING TITLE <b>P &amp; ID</b> SEA WATER COOLING SYSTEM LIFT PUMPS NORTHEAST, LOW DRAFT LIFT PUMP SOUTHEAST				DRAWN BY <b>E.KLEE (T.7844)</b> SCALE <b>NONE</b> DWG. FORMAT <b>A3</b>	
PROJECT NO. <b>1440</b>		DSME DWG. NO. <b>6038DA721R101</b>		SHEET <b>1 OF 1</b>	
DWG. NO. <b>1440-50-MU-PID-842-5001</b>				REV. <b>14</b>	



REFERENCE DRAWINGS:

1440-50-PR-LI-020-6001 P&ID DRAWING LIST & REFERENCE DOCUMENTS  
1440-50-MU-DG-020-0001 THRU  
0005 & 0007 THRU 0009 P&ID GENERAL LEGEND


GENERAL NOTES:


- A. DELETED.
- B. ALL INSTRUMENTS ON THIS DRAWING WILL BE READ AS INSTRUMENT, SYSTEM ID, SEQ. No.  
i.e. FI 208 WILL BE READ AS FI 842 208, UNLESS OTHERWISE NOTED.  
ALL MANUAL VALVE TAGS ON THIS DRAWING TO BE READ AS : LLLL842-DDD
- C. NO SEAWATER COOLING OR FIREWATER PIPING SHOULD BE ROUTED THROUGH THE BOX BOTTOM.


NOTES:


- SEA INLETS TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MOBILE DRILLING UNITS 2001 SECT. 4.2.2/21. STRAINER AT SHELL TO HAVE A FREE AREA OF AT LEAST 15 TIMES THE AREA OF THE INLET VALVE AND SHALL PREVENT PASSAGE OF OBSTACLES IN A FORM OF A BALL EQUAL TO AND LARGER THAN DIA. 20 MM. THE SEA INLET SHALL BE DESIGNED TO FIT PORTABLE OUTSIDE HATCH MOUNTED BY DIVER OR ROV.
- VENT AND DRAIN VALVES PROVIDED FOR DRAINING VERTICAL RISER BETWEEN CHECK VALVES.
- DELETED.
- MANUAL OPERATED SEA SIDE VALVE TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MOBILE DRILLING UNITS 2001 SECT. 4.2.2/21. THE VALVE CONTROL AND POSITION INDICATION SHALL BE READILY ACCESSIBLE. THE VALVE TO BE MARKED "SEA DIRECT".
- PROPER ISOLATION OF SHIP SIDE VALVE TO BE PROVIDED BY USING ISOLATION GASKETS AND ISOLATION SET FOR BOLTING ON BOTH SIDES OF THE VALVE.
- THE VALVE ACTUATORS AND POSITION TRANSMITTERS ARE TO BE FUNCTIONAL IN A SUBMERGED CONDITION AT A WATER PRESSURE OF UP TO 60M WC (200' WC). POSITION SWITCHES MAY BE CONSIDERED AS AN ALTERNATE IF POSITION TRANSMITTERS SUITABLE FOR THE APPLICATION ARE NOT AVAILABLE.
- PUMP SHOULD NOT BE ALLOWED TO START IF SUCTION VALVE IS CLOSED.
- DELETED.
- VALVE AND ACTUATOR TO BE OPERABLE IN FLOODED CONDITION. IN CASE OF CONTROL FAILURE VALVE TO FAIL CLOSE AND A MEANS TO BE PROVIDED FOR LOCAL MANUAL EMERGENCY OPERATION. VALVE TO HAVE LOCAL OPEN/CLOSE INDICATOR.
- REMOTE OPERATED SEA SIDE VALVE TO BE DESIGNED IN ACCORDANCE WITH ABS RULES FOR MDU 2001 SECT. 4.2.2/21. THE VALVE CONTROL AND POSITION INDICATION SHALL BE READILY ACCESSIBLE. MEANS FOR LOCAL EMERGENCY OPERATION IN CASE OF LOSS OF REMOTE HYDRAULIC CONTROL SHALL BE PERMANENTLY INSTALLED. THE VALVE TO BE MARKED "SEA DIRECT".
- FLANGE AT TEWAC COOLER INLET AND OUTLET IS 150#. PIPE SPEC BREAK IS AT WN OF FLANGE FROM B13S TO A20S.
- HIGH FLOW ALARM DELETED PER MOC 1024.


PROJECT No. 15646141-12004	WP DOC No. 156461-80-PR-PID-0475	WP REV 0
13 26FEB14 ZT ISSUED AS-BUILT PER MOC-13-0291	JPM TN JPM RRJ WP	
12 13APR07 SRS REVISED	DGH MB DLB	
11 08FEB07 SRS REVISED	DGH MB DLB	
10 20OCT08 MB BP FINAL HANDOVER	DJM MB DLB	
REV DATE BY DESCRIPTION	CHK ENGR APPR CLIENT COMP	

**WorleyParsons**  
resources & energy

**DSME**  
DAEWOO SHIPBUILDING & MARINE ENGINEERING

**GVA Consultants**  
GVA Consultants AB

**HALLIBURTON**  
Engineering services by Halliburton Technical Services, I



PROJECT TITLE  
**BP BP ATLANTIS FIELD DEVELOPMENT**  
SEMI-SUBMERSIBLE PRODUCTION UNIT

DRAWING TITLE  
**P & ID**  
**SEA WATER COOLING SYSTEM**  
**LIFT PUMPS NORTHWEST.**  
**LOW DRAFT LIFT PUMP SOUTHWEST**

DRAWN BY  
**E.K.LEE (T.5220)**

SCALE  
**NONE**

DWG. FORMAT  
**A3**


PROJECT NO.  
**1440**

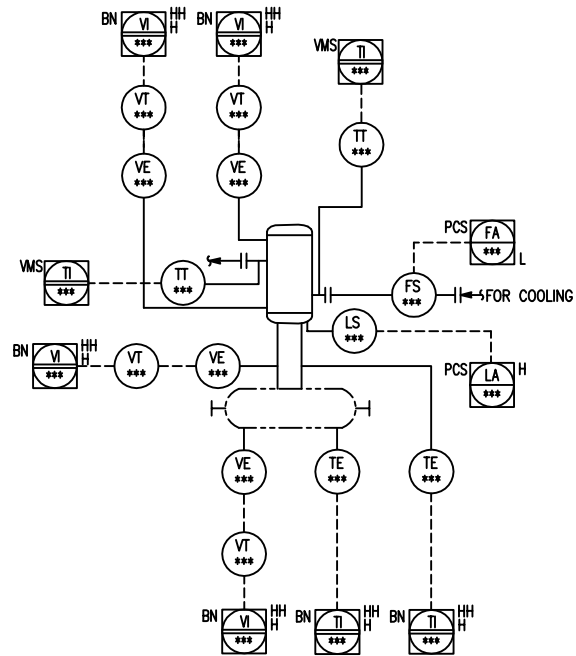
DSME DWG NO.  
**6038DA721R102**

PROJECT DWG NO.  
**1440-50-MU-PID-842-5002**

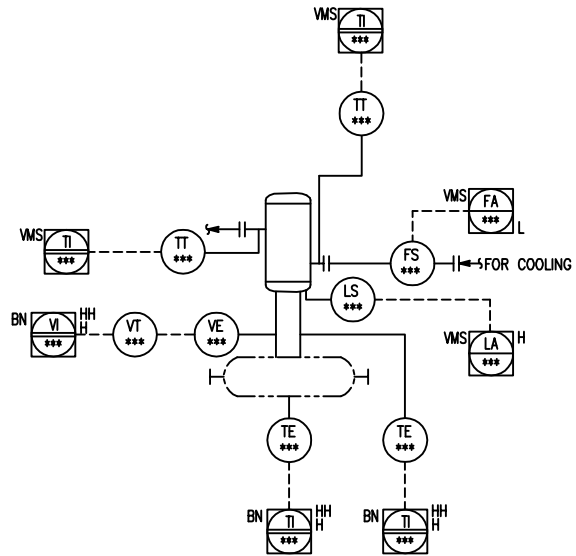
SHEET  
**1 OF 2**

REV.  
**13**

**DSME** DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.



DETAIL "A"  
842-PA-001A/001B (PID-842-5002-001)  
842-EE-001A/001B (PID-842-5002-001)  
842-PA-001C/001D (PID-842-5001)  
842-EE-001C/001D (PID-842-5001)



DETAIL "B"  
842-PA-002A (PID-842-5002-001)  
842-EE-002A (PID-842-5002-001)  
842-PA-002B (PID-842-5001)  
842-EE-002B (PID-842-5001)

TAG NOs OF MOTOR & PUMP INSTRUMENTS FOR SEA WATER LIFT PUMP

PUMP NO. MOTOR NO.	DETECTORS OF MOTOR				DETECTORS OF PUMP				DETECTORS HOOD (MOC 911)	
	VIB'N	VIB'N	LEAK	FLOW	TEMP.	TEMP.	VIB'N	VIB'N	TEMP.	TEMP.
842-PA-001A 842-EE-001A	111	112	109	109	109	110	109	110	120	121
842-PA-001B 842-EE-001B	107	108	105	105	105	106	105	106	125	126
842-PA-001C 842-EE-001C	211	212	209	209	209	210	209	210	220	221
842-PA-001D 842-EE-001D	207	208	205	205	205	206	205	206	225	226
	BN	BN	PCS	PCS	BN	BN	BN	BN	VMS	VMS

TAG NOs OF MOTOR & PUMP INSTRUMENTS FOR LOW DRAFT SEA WATER LIFT PUMP

PUMP NO. MOTOR NO.	DETECTORS OF MOTOR		DETECTORS OF PUMP			DETECTORS HOOD (MOC 911)	
	LEAK	FLOW	TEMP.	TEMP.	VIB'N	TEMP.	TEMP.
842-PA-002A 842-EE-002A	101	101	101	102	101	122	123
842-PA-002B 842-EE-002B	201	201	201	202	201	222	223
	VMS	VMS	BN	BN	BN	VMS	VMS