



GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
- ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION, SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.
- FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE & GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS, STRAINERS & CONTROL VALVES SEE DRAWINGS 50489-530-020-PID-1108.001 TO 1108.010.
- DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT.NO.
- FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
- PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
- LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
- FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
- FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

- CABLE GLANDS FOR CONTRACTOR CONNECTION ARE PUMP VENDOR SCOPE OF SUPPLY.
- LOW PRESSURE ALARM (PAL-0441 SET@ 1.1 barg (16 psig)) STARTS THE ASSOCIATED AUXILIARY LUBE OIL PUMP AND AT 1.6 barg (23.2 psig) ASSOCIATED AUXILIARY LUBE OIL PUMP WILL STOP.
- PERMISSIVE CONDITION FOR THE AUXILIARY LUBE OIL PUMP 6005A-G1.
- DELETED.
- COOLER ARE PROVIDED AS LOOSE SUPPLY.
- VENDOR CONTRACTOR
- AUXILIARY LUBE OIL PUMPS RUNNING CONTINUOUSLY FOR MORE THEN 10 MINUTE TRIPS DISPOSAL PUMP G-005A/B/C.
- HIGH TEMPERATURE ALARM (TAH-0430) SET@ 68°C (154.4°F) STARTS THE ASSOCIATED BACK-UP FAN. LOW TEMPERATURE ALARM (TAL-0430) SET @ 65°C (149°F) STOPS THE ASSOCIATED BACK-UP FAN.
- HEATER ON AT 16°C (61°F) AND OFF AT 20°C (68°F).
- LUBE OIL TYPE: VG-46.
- VENDOR REFERENCE DOC. NO.  
(a) 50489-530-020-07673-PID-V003.  
(b) OPERATION CONTROL PHILOSOPHY OF PACKAGES (50489-530-020-07673-PHL-V001).  
(c) ALARM & TRIP SCHEDULE (50489-530-020-07673-LST-V006).
- PAH-0441 AND LAL-0375 (>105mm) IS USED AS PERMISSIVE CONDITION FOR MAIN PROCESS PUMP.
- ISOLATION VALVES OF PRESSURE TRANSMITTER (CONNECTED TO ESD) ARE LO TYPE.

NOZZLE NO.	DESCRIPTION	NOZZLE SIZE (INCH)	RATING (Lbs)	TYPE	MATERIAL
					JIS    ASTM    EQUIV.
CUSTOMERS CONNECTIONS					
A	PUMP SUCTION	12	900	RTJ	-    A890 Gr5A
B	PUMP DISCHARGE	8	900	RTJ	-    A890 Gr5A
C	CASING DRAIN & VENT	3/4	900	RTJ	-    UNS S32750
-	SKID BASE DRAIN	2	150	RF	SFVC2A    A105
TP5	L.O. COOLER INLET	1	150	RF	-    A182 F316L
TP6	L.O. COOLER OUTLET	1	150	RF	-    A182 F316L
TP7	L.O. RESERVOIR DRAIN	1	150	RF	-    A182 F316L
TP8	L.O. COOLER VENT	3/4	150	RF	-    A182 F316L
TP9	L.O. COOLER DRAIN	1	150	RF	-    A182 F316L
TP10,11	L.O. FILTER CLEAN DRAIN	3/4	150	RF	-    A182 F316L
TP12,13	L.O. FILTER DIRTY DRAIN	3/4	150	RF	-    A182 F316L
TP14,15	L.O. FILTER VENT	3/4	150	RF	-    A182 F316L
TP16	L.O. PIPE DRAIN	3/4	150	RF	-    A182 F316L
TP17	LVL GAUGE VENT	3/4	150	RF	-    A182 F316L
TP18	LVL GAUGE DRAIN	3/4	150	RF	-    A182 F316L

Z0	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	RAK	09.08.18
O1	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	08.11.16
O	ISSUED FOR CONSTRUCTION	HSH/PS	AKG	SRA	RAK	27.05.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSH/PS	AKG	SRA	RAK	18.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	10.09.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	19.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	05.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

CONTRACTOR REVISION

**KUWAIT OIL CO. K. S. C.**  **شركة نفط الكويت ش.م.ك.**  
A Subsidiary of Kuwait Petroleum Corporation

CONTRACTOR DETAILS:-  
 **LARSEN & TOUBRO LIMITED**  
FARIDABAD

PROJECT TITLE:-  
NEW GATHERING CENTRE GC-30  
IN NORTH KUWAIT

DOCUMENT TITLE:-  
PIPING & INSTRUMENTATION DIAGRAM  
LUBE OIL SYSTEM FOR TREATED WATER DISPOSAL PUMP  
(G-005B)

PROJECT NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
EF1902	CONTRACTOR DRG. NO.			
	50489-530-020-PID-1153.018	Z0		
	SHEET NO. 18 OF 25			
	COMPANY DRG. NO.			
	EF1902-530-DCO-PID-0153.007	A1		
	SHEET NO.			

**AS-BUILT**  
**KOC APPROVAL**

NAME / KOC NO :  
DESIGNATION :  
GROUP / TEAM :  
SIGNATURE :  
DATE :

**AS-BUILT**  
**LARSEN & TOUBRO LIMITED**

NAME : VAIBHAV VERMA  
DESIGNATION : AGM  
SIGNATURE :  
DATE : 09-Aug-2018  
DEPT/ DIVISION : ENGINEERING

G-005B-G-1 (NOTE-7)

AUXILIARY LUBE OIL PUMP

FLOWRATE : 75 lpm  
DRIVER POWER KW (HP) : 3 (4.02)  
OP PRESS/DES PRESS barg (psig) : 5 (72.5)/ 10 (145)  
OP TEMP/DESIGN TEMP °C (°F) : 72 (161.6)/-3~93 (27~200)