

GENERAL NOTES:

- A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.  
B. ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-..  
C. ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-..  
D. FOR TYPICAL INSTRUMENT CONNECTION, SBDY, XY, NOV & ESSV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.  
E. 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.  
F. 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.  
G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.  
H. DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.  
I. PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.  
J. LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.  
K. FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.  
L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

1. DELETED  
2. DELETED  
3. MCC IS NOT IN PUMP VENDOR SCOPE OF SUPPLY WIRING FROM LCS TO MCC IS NOT IN PUMP VENDOR SCOPE OF SUPPLY.  
4. OFF SKID LUBE OIL COOLER INTERCONNECTING PIPEWORK NOT IN PUMP VENDOR SCOPE OF SUPPLY.  
5. REFERENCE VENDOR DRAWING NUMBER:  
50489-530-020- 07262-PID-V001, SHEET 1,2,3,4.  
50489-530-020- 07262-PID-V002  
6. IF MAIN ATU PUMP IS NOT ABLE TO DEVELOP SUFFICIENT PRESSURE, STAND BY ATU PUMP SHALL START AUTOMATICALLY AFTER TIME DELAY (15 SEC).  
7. BARRIER MEDIUM 70% WATER, 30% GLYCOL.  
8. FOR SET POINT INFORMATION REFER TO ALARM & TRIP LIST, REFER VENDOR DOC. NO. 50489-530-030-07262-LST-V001.  
9. a). ATU AUTO START/STOP IS WHEN ATLEAST ONE MAIN PUMP (G-011 A/B/C) IS RUNNING. IN CASE OF NO PUMP RUNNING (INITIAL START UP) ATU PUMPS TO BE STARTED AND STOPPED MANUALLY.  
b). ATU PUMPS SHALL AUTO START WHEN ANY MAIN PUMP RUNNING AND ANY ONE SEAL PIT IS LOW (PIT-395 OR 397) <5 BARG WITH G-011A RUNNING AND ATU STANDBY PUMP SHALL AUTO START IF DUTY PUMP IS RUNNING AND PRESSURE IS NOT HEALTHY (IN 15 SEC).  
c). BOTH ATU PUMPS SHALL STOP WHEN BOTH PITs (OF RESPECTIVE RUNNING PUMPS) >8 BARG.

TERMINATION POINT LIST (PROVISIONAL)		
TP No.	SIZE/TYPE	DESCRIPTION
TP5A	3/4" (20MM) NB ANSI B16.5 CLASS 600 R.F	CONNECTION TO AUTO TOP-UP UNIT
TP6A1	1/4" B.S.P.P (MALE)	PUMP DE SEAL ACCUMULATOR N2 CONNECTION
TP6A2	1/4" B.S.P.P (MALE)	PUMP NDE SEAL ACCUMULATOR N2 CONNECTION
DELETED	DELETED	DELETED
TP20A1	1/2" (15MM) NB ANSI B16.5 CLASS 600 R.F	MECHANICAL SEAL COOLER VANT CONNECTION
TP21A1	1/2" (15MM) NB ANSI B16.5 CLASS 600 R.F	MECHANICAL SEAL COOLER VANT CONNECTION


AS-BUILT
KOC APPROVAL
NAME / KOC No:
DESIGNATION :
GROUP / TEAM :
SIGNATURE :
DATE :

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME : VAIBHAV VERMA
DESIGNATION : AGM
SIGNATURE :
DATE : 30.May.2019
DEPT/ DIVISION : ENGINEERING

Z2	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	RAK	30.05.19
Z1	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	RAK	09.12.18
Z0	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	RAK	24.09.18
O1	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	08.11.16
O	ISSUED FOR CONSTRUCTION	HSH/VSA	AKG	SRA	RAK	30.06.16
D	ISSUED INCORPORATED CLIENT COMMENTS	PAK/VSA	AKG	SRA	RAK	13.05.16
C	ISSUED INCORPORATED CLIENT COMMENTS	PAK/VSA	AKG	SRA	RAK	13.10.15
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
				APPRD.		

CONTRACTOR REVISION

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

CONTRACTOR DETAILS:-	
	<b>LARSEN &amp; TOUBRO LIMITED</b> FARIDABAD
PROJECT TITLE:- NEW GATHERING CENTRE GC-30 IN NORTH KUWAIT	
DOCUMENT TITLE:- PIPING & INSTRUMENTATION DIAGRAM SEAL SYSTEM FOR TREATED WATER TRANSFER PUMP (G-011A)	
PROJECT NO.	DRAWING NO.
CONTRACTOR DRG. NO. 50489-530-020-PID-1153.007	REV. KOC DRG. NO.
SHEET NO. 7 OF 25	SHEET NO.
COMPANY DRG. NO. EF1902-530-DCO-PID-0153.005	REV.
SHEET NO.	A1