

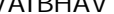
GENERAL NOTES:

- 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 SBDX, XV, MOV & EDV 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 APPROXIMATED 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-11001.001 TO 11023.
- 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. AUTOMATIC VARIABLE PUMP STROKE ADJUSTMENT IS THROUGH DCS.
2. LOW LOW LIQUID LEVEL IN D-049 STOPS BIOCID E INJECTION PUMPS.
3. FLUSHING CONNECTIONS.
4. EYEWASH AND SAFETY SHOWERS ARE PROVIDED IN THE CHEMICAL INJECTION SKID AREA.
5. PROVIDE CORIOLIS FLOW MEASUREMENT AND FACILITY FOR LOCAL CALIBRATION.
6. BIOCID E SHALL BE STORED BELOW 60°C. ALL PIPEWORK TO BE INSULATED TO PROTECT THE FLOW FROM HEAT BUILD UP DUE TO SOLAR RADIATION.
7. DELETED.
8. BATCH CONTROL – THE QUANTITY OF DOSING FLUID IS DETERMINED BY OPERATOR AND INPUT INTO TOTALISER. PUMP STOPS WHEN BATCH VOLUME IS ACHIEVED.
9. (A) LOW POINT DRAIN IS PROVIDED AS APPROPRIATE.
(B) DELETED
10. BIOCID A & BIOCID B TO BE ADDED ALTERNATIVELY BY WEEKLY SHOCK DOSING FOR 4 HRS.
(A) SHOCK DOSING TO EFFLUENT WATER BALANCE TANK BASED ON NORMAL DOSING RATE 400 PPM: 3075 LITERS AND BASED ON MAXIMUM DOSING RATE 600 PPM: 4612 LITERS
(B) SHOCK DOSING TO TREATED WATER TANK BASED ON NORMAL DOSING RATE 400 PPM: 3073 LITERS & BASED ON MAXIMUM DOSING RATE 600 PPM: 4610 LITERS
11. PUMP SUCTION BALL VALVE & CALIBRATION POT BALL VALVE ARE LOCATED ADJACENT TO ONE ANOTHER FOR MEASURING THE FLOW.
12. DEVIATION ALARMS ARE CONFIGURED IN THE DCS TO ALARM IF ACTUAL FLOW DIFFERS FROM SET BY 10%.
13. CHEMICAL INJECTION RATIO CONTROLLER IS SET IN PPM.
14. PUMPS ARE PROVIDED WITH DIAPHRAGM RUPTURE ALARM (PAHH).
15. PAHH STOPS BIOCID B SHOCK DOSING PUMP.
16. DIRECT MOUNTING TO THE PUMP HEAD FOR DETECTING RUPTURE OF DIAPHRAGM.
17. MINIMUM STROKE OF 10% IS PROVIDED FOR ALL CHEMICAL INJECTION PUMP.

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

AS-BUILT	
LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	26-Aug-2018
DEPT/ DIVISION :	ENGINEERING

NO	ISSUED FOR AS-BUILT	HSR/CHS	AKG	SRA	RAK	26.08.
01	ISSUED FOR CONSTRUCTION	HSR/CHS	AKG	SRA	RAK	22.12.
0	ISSUED FOR CONSTRUCTION	HSR/CHS	AKG	SRA	RAK	06.06.
D	ISSUED INCORPORATED CLIENT COMMENTS	PAK/CHS	AKG	SRA	RAK	08.04.
C	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	30.10.
0C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	04.06.
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ VSA	AKG	SRA	RAK	24.02.
A	ISSUED FOR APPROVAL	PK/ABY	AKG	SRA	RAK	12.12.
REV.	DESCRIPTION	DRAWN	CHECKED	HOD APPRO.	PEM	DATE

CONTRACTOR REVISION

KUWAIT OIL CO.
K. S. C.

 **شركة نفط الكويت**
ش.م.ك.

إسناد شركات ترسية الحقول الحكومية
A Subsidiary of the National Petroleum Corporation

CONTRACTOR DETAILS:-

 LARSEN & TOUBRO LIMITED
FARIDABAD

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

DOCUMENT TITLE:-
PIPING & INSTRUMENTATION DIAGRAM
CHEMICAL INJECTION SKID #4 - BIOCIDES B (SHOCK DOSING)
(G-049C/D/E/F)

PROJECT NO.	DRAWING NO.		
EF1902	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.
	50489-530-020-PID-1197.007	Z0	
	SHEET NO. 7 OF 7		SHEET NO.
	COMPANY DRG. NO.	REV.	
	EF1902-530-DCO-PID-0197.007	A2	
	SHEET NO.		