



- 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 SBOV, XV, MOV & ESDV 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.N0.
- G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- H. DETAIL NUMBERING FOR CI, SC, SC & 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-PHIL-1009.
- L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-ISM-1006.

6. DELETED.
7. AUTOMATIC VARIABLE PUMP STROKE ADJUSTMENT IS THROUGH DCS.
8. DELETED.
9. VALVE CLOSURES AT HIGH LIQUID LEVEL H1 (SET@ 1580MM), VALVE OPENS AT LOW LIQUID LEVEL L1 (SET@ 420MM).ZSC OF LCV-6095 & LCV-6110 STOPS DUTY & STANDBY TRANSFER PUMP G-027A/B BY SLS LOGIC.
10. DELETED.
11. LOW LOW LIQUID LEVEL STOPS BIOCID A INJECTION PUMPS AND AGITATOR.
12. FLUSHING CONNECTIONS.
13. BIOCID A DAY TANK COMES UNDER BUND AREA & WASH WATER BIOCID A INHIBITOR INJECTION PUMP IS PART OF PUMP SKID.
14. EYEWASH AND SAFETY SHOWERS ARE PROVIDED IN THE CHEMICAL INJECTION SKID AREA.
15. PROVIDE CORIOLIS FLOW MEASUREMENT AND FACILITY FOR LOCAL CALIBRATION.
16. TANK LEVEL INSTRUMENTS ARE CALIBRATED IN VOLUMETRIC UNITS.
17. DELETED.
18. HIGH HIGH LIQUID LEVEL STOPS BIOCID A TRANSFER PUMP G-027A/B.
19. BIOCID A SHALL BE STORED BELOW 60°C. ALL PIPE WORK TO BE INSULATED TO PROTECT THE FLOW FROM HEAT BUILD UP DUE TO SOLAR RADIATION.
20. TANK BUND NOT IN VENDOR SCOPE. TANK CONCRETE BUND SHALL BE 115% CONTAINMENT OF D-043.
21. DEVIATION ALARMS ARE CONFIGURED IN THE DCS TO ALARM IF ACTUAL FLOW DIFFERS FROM SET BY 10%.
22. FLAME ARRESTOR INSTALLED WITH GOOSE NECK PIPE FOR VENT.
23. DELETED.
24. CHEMICAL INJECTION RATIO CONTROLLER IS SET IN PPM.
25. ANTI-RESISTANT CHEMICAL FLOOR ARE PROVIDED.
26. OVERFLOW NOZZLE IS LOCATED ABOVE HILL.
27. TANK AREA ARE PAVED. FLOOR IS SLOPED TOWARDS SUMP PIT.
28. VENT TO SAFE LOCATION ARE AS PER KOC-G-002 ALONG WITH GROSS NECK & BIRD SCREEN.
29. EMERGENCY STOP PUSH BUTTON IN THE FIELD IS AT A SAFE LOCATION.
30. PROVIDE INDICATION FOR PUMP STROKE IN DCS.
31. (A) LOW POINT DRAIN IS PROVIDED AS APPROPRIATE.
(B) DELETED.
32. CHEMICAL PUMPOUT CONNECTION.
33. PUMP SUCTION BALL VALVE & CALIBRATION POT BALL VALVE ARE LOCATED ADJACENT TO ONE ANOTHER FOR MEASURING THE FLOW.
34. PUMPS ARE PROVIDED WITH DIAPHRAGM RUPTURE ALARM (PAHH).
35. VACUUM TRUCK CONNECTION (PIPE & VALVE) : L&T SCOPE
36. PAHH STOPS WASH WATER BIOCID A INHIBITOR INJECTION PUMP.
37. DIRECT MOUNTING TO THE PUMP HEAD FOR DETECTING RUPTURE OF DIAPHRAGM.
38. CHEMICAL SKID DRAIN LINE TILL INLINE TEE CONNECTION IS IN L&T SCOPE.
39. MINIMUM STROKE OF 10% IS PROVIDED FOR ALL CHEMICAL INJECTION PUMP.

ZO	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	DER	18.08.18
O1	ISSUED FOR CONSTRUCTION	BAK/CHS	AKG	SRA	DER	21.12.16
O	ISSUED FOR CONSTRUCTION	HSH/CHS	AKG	SRA	RAK	09.06.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSH/CHS	AKG	SRA	RAK	08.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	29.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	04.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/AYA	AKG	SRA	RAK	23.02.15
A	ISSUED FOR APPROVAL	PK/ABY	AKG	SRA	RAK	12.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM APPRD.	DATE

CONTRACTOR REVISION

KUWAIT OIL CO. K. S. C.	 (مؤسسة نفط الكويت) Kuwait Oil Company (مؤسسة نفط الكويت) A Subsidiary of Kuwait Petroleum Corporation	شركة نفط الكويت ش.م.ك.																				
CONTRACTOR DETAILS:—																						
	LARSEN & TOUBRO LIMITED Faridabad																					
PROJECT TITLE:—																						
NEW GATHERING CENTRE GC-30 IN NORTH KUWAIT																						
DOCUMENT TITLE:—																						
PIPING & INSTRUMENTAION DIAGRAM CHEMICAL INJECTION SKID #3 -BIOCIDE A (CONTINUOUS DOSING) (D-043 & G-043A/B/C)																						
DRAWING NO.																						
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