

AREA PROTECTED	NO. OF NOZZLES	K FACTOR SPRAY ANGLE	TRIGGER HEADS	LINE No. 1	LINE No. 2	LINE No. 3	LINE No. 4	LINE No. 9	LINE NO. 10	LINE NO. 11	TAG A TAG B TAG C	C TAG D TAG	G E TAG	F TAG G TAG H	TAG I TAG J	TAG K TAG	L TAG M TAG N TAG	O TAG AA	DV SKID NO.	SUCTION COLLECTION HEAD NO.
HP FLARE KO DRUM (530-V-016A) DELUGE	38	50 140°	38	6"-WF-9186-Q35A	6"-WF-9171-Q35A	6"-WF-9172-Q15A	6"-WF-9173-Q15A	6"-WF-9170-Q35A	1"-AI-1751-S10A	1/2"-AI-9017-S10	0A 9020A 9020B 9020C	9020D 902	20E 902	20 9020G 9020H	90201 9020J	9020K 9020	DL 9020M 9020N 902	00 SP-010	DVS-16	SCH-20
HP FLARE KO DRUM (530-V-016B) DELUGE	38	50 140°	38	6"-WF-9178-Q35A	6"-WF-9179-Q35A	6"-WF-9180-Q15A	6"-WF-9181-Q15A	6"-WF-9187-Q35A	1"-AI-1406-S10A	1/2"-AI-9018-S10	OA 9021A 9021B 9021C	9021D 902	21E 902	21 9021G 9021H	9021I 9021J	9021K 9021	L 9021M 9021N 902	10 SP-011	DVS-17	SCH-21
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GENERAL NOTES:

- 4. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & 1105.001. . ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-. C. FOR ESDV, SBDV AND MOV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001 & 1107.001. D. FOR MISCELLANEOUS PIPING DETAILS SEE DRAWING 50489-530-020-PID-1108.001.
- E. FOR TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTATION, PUMPS AND CONTROL VALVES SEE DRAWING 50489-530-020-PID-1109.001.

AND BE UL LISTED AND FM APPROVED

- 1. UV/IR FLAME DETECTORS AUTOMATICALLY DETECT FIRE AND WHEN ACTIVATED
- A SIGNAL IS SENT TO THE F&G PANEL IN THE CCR. 2. AIR SET IS FITTED WITH AIR FILTER, REGULATOR AND PI.
- 3. RO SUPPLIED TO GIVE PRESSURE/LOSS CHARACTERISTICS OF THE DELUGE VALVE. 4. 4 WAY SUCTION COLLECTION HEAD IS INSTALLED TO ALLOW SECONDARY SUPPLY OF WATER TO DELUGE SYSTEM. 5. DELUGE VALVE IS DIAPHRAGM TYPE DESIGNED FOR DELUGE OPERATION
- 6. TRIGGER HEAD CONFIGURATION 1/2" FUSABLE PLUGS OVER PROTECTED EQUIPMENT ON A GENERAL
- 7. 2 VALVES REQUIRED IN BYPASS LINE TO PREVENT UNNECESSARY LOSS
- OF WATER DUE TO GATE VALVE PASSING.
- ADEQUATE DRAINAGE IS PROVIDED AROUND DELUGE SYSTEM TO AVOID ACCUMULATION OF WATER AROUND THE EQUIPMENT
 PROVISION ARE MADE FOR PRESSURE TESTING AS PER NFPA 15 CLAUSE NO. 6.4.4 & 6.4.4.5 NEAR THE HYDRAULICALY REMOTEST NOZZLE.

- O. DELUGE VALVES SHALL BE HELD CLOSED BY AIR PRESSURE SUPPLIED FROM THE INSTRUMENT AIR SYSTEM. 1. DELUGE VALVES SHALL FULLY OPEN WITHIN 10 SECONDS ON REMOVE OF INSTRUMENT AIR BY:
- A. REMOTE OPERATION OF A PUSH BUTTON AT THE MAIN FIRE AND GAS PENEL, LOCATED IN THE CONTROL ROOM, TO ENERGIZE A SOLENOID VALVES IN INSTRUMENT AIR SUPPLY TO DELUGE
- VALVE.
 B. LOCAL OPERATION OF A MECHANICAL AIR RELEASE UNIT OF DELUGE VALVE STATION.
- 2. SPRAY NOZZLE IS CONSTRUCTED FROM MAINE BRASS. 13. DELUGE VALVE STATIONS ARE PROTECTED FROM RADIATED HEAT BY THE PROVISION OF
- METAL RADIATION SHIELDS. **14.** PIPE MOC (AS PER KOC-L-009):
- 3" SIZE AND BELOW: 90-10 COPPER NIKEL TO ASTM B 466 UNS. 4" SIZE AND ABOVE : CARBON STEEL API 5L GRB WITH PHENOLIC EPOXY COATING. 15. FLANGE INSULATION KITS ARE PROVIDED AT DISSIMILAR METAL JUNCTIONS HAVING
- ELECTROMOTIVE POTENTIAL DIFFERENCE GREATER THAN 0.05V AS PER CLAUSE 7.3.1.17 OF KOC-L-009.
- 16. INTERNALLY COATED UG PIPING ARE FLANGED SPOOLS AS PER KOC-L-009. 17. FLUSHING DRAIN PIT IS ACCESSIBLE FROM GROUND LEVEL.
- 18. THE UNDERGROUND SECTION ARE EXTERNALLY COATED WITH 3 LAYERS EXTRDED HDPE AS
- AS PER KOC-P-005 REV-1. 19. THE ABOVE GROUND PIPING SECTION ARE COATED WITH SYSTEM A1-1 OF KOC-P-001 REV 3
- **20.** TOP CHAMBER OF DELUGE VALVE IS CONNECTED TO WATER LINE & TO WATER INLET OF ACTUATOR WHEN THE AIR PRESSURE DROPS DUE TO DETECTION OF FIRE THE DIAPHRAGM OF

PERKOC-PO04 PART 6, REV-2 WITH THE INTERNAL PHENOLIC EPOXY ON THE PIPING SHALL BE

ACTUATOR IS LIFTED AND ALLOWS THE WATER PRESSURIZING DIAPHRAM OF DELUGE VALVE TOP CHAMBER TO DRAIN. THIS RELESES THE PRESSURE IN THE TOP CHAMBER OF DELUGE VALVE ALLOWING THE DELUGE VALVE TO OPEN.

LEGENDS:

	SYMBOL	DESCRIPTION
	ş——FW	FIRE WATER PIPING
	\downarrow	SPRAY NOZZLE
TEM 2		REDUCER
		GATE VALVE
		END CAP

REFERENCE DRAWINGS:

50489-530-000-CAL-1005 | FLARE K.O. DRUM HYDRAULIC CALCULATION FOR WATER SPRAY SYSTEM FOR HP KOC-L-009 KOC STANDARD FOR FIRE PROTECTION SYSTEM 50489-530-000-LAD-1065 | FIRE WATER NETWORK LAYOUT FIRE WATER DETAIL ARRANGEMENT DRAWING FOR WATER 50489-530-000-LAD-1068 SPRAY SYSTEM FOR HP FLARE K.O. DRUM

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Z0	ISSUED FOR AS-BUILT	PAK/DEU	NIJ	SRA	RAK	12.08.1
01	RE-ISSUED FOR CONSTRUCTION	PAK/DEU	NIJ	SRA	RAK	16.07.1
0	ISSUED FOR CONSTRUCTION	PAK/DEU	NIJ	SRA	RAK	13.05.1
В	ISSUED "INCORPORATED CLIENT COMMENTS"	PAK/DEU	NIJ	SRA	RAK	15.10.1
A	ISSUED FOR APPROVAL	PAK/DEU	NIJ	SRA	RAK	10.04.1
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
	BEGG! (II 1101)		O LONED	APP	RD.	D, (12

CONTRACTOR REVISION



CONTRACTOR DETAILS:-



LARSEN & TOUBRO LIMITED FARIDABAD

NEW GATHERING CENTRE GC-30 IN NORTH KUWAIT

DOCUMENT TITLE:-

PIPING & INSTRUMENTATION DIAGRAM DELUGE WATER SPRAY SYSTEM FOR HP FLARE K.O. DRUM

PROJECT NO.	DRAWING NO.								
	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.	ĒV.					
	50489-530-000-PID-1121.001								
	SHEET NO. 1 OF 2		SHEET NO.						
EF1902	COMPANY DRG. NO.	REV.							
	SHEET NO.								