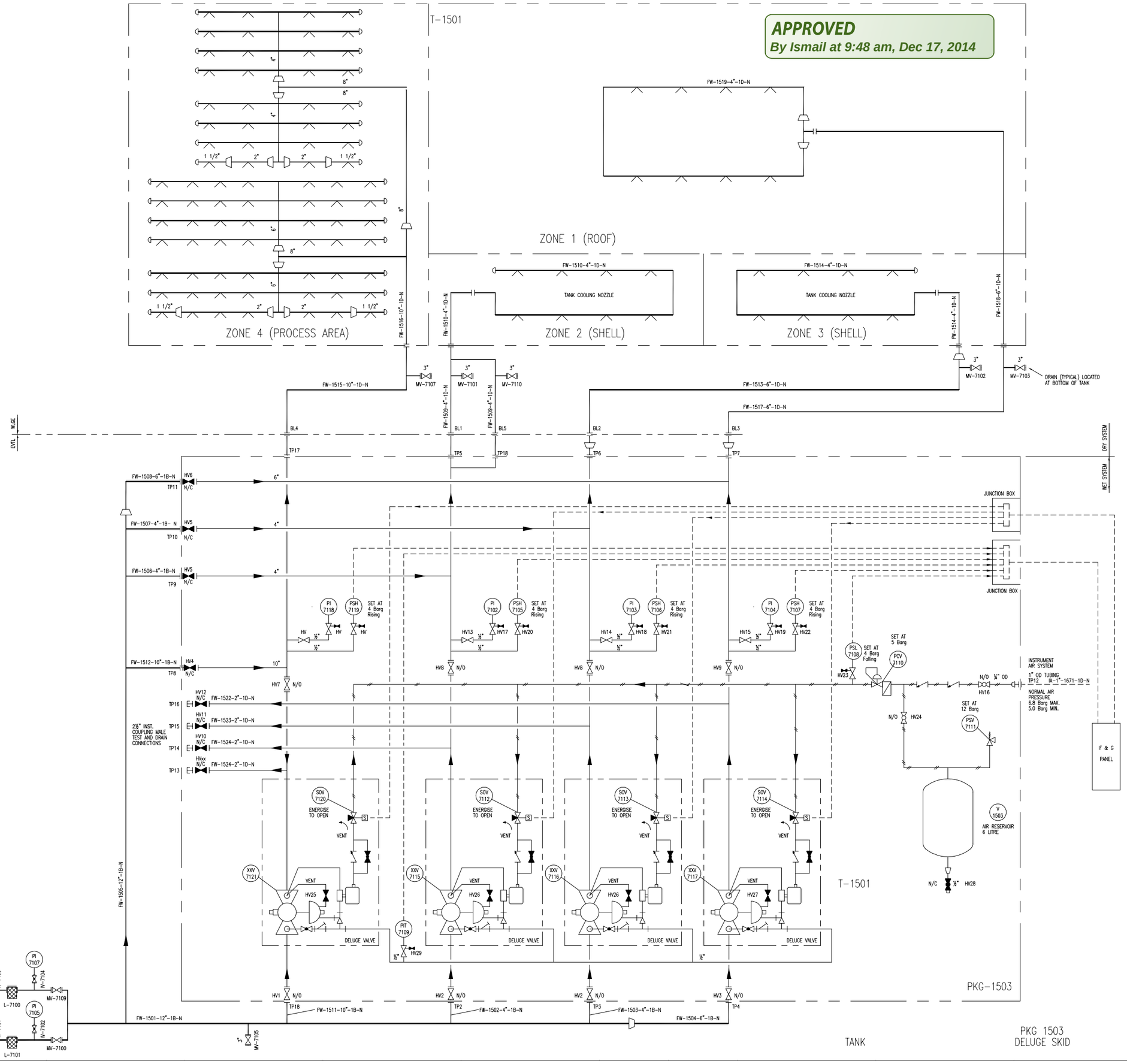

LEGEND

PLC BASED INSTRUMENT
LOCAL, PANEL MOUNTED INSTRUMENT
LOCAL, DIRECT MOUNTED INSTRUMENT
REMOTE MOUNTED INSTRUMENT

PROCESS EQUIPMENT TRIP FUNCTION

LINE CLASSES

1B : ANSI 150# RATED SYSTEM, A106 Gr.B CARBON STEEL, MIN. TEMP. -10°C
1D : ANSI 150# RATED SYSTEM, A106 Gr.B (HOT DIPPED GALVANISED) CARBON STEEL, MIN. TEMP. -10°C

GENERAL NOTES

VENTS/ TESTING DRAINS TO BE PLACED IN APPROPRIATE POSITIONS BY OTHERS
I/P'S AND REMOTE OPEN/CLOSE FACILITIES PROVIDED FOR ALL CONTROL VALVES
RUNNING AND FAULT INDICATION PROVIDED FOR ALL MOTORS
ALL PSV AND TSV OUTLETS TO CONNECT INTO TOP OF HEADER

NOTES

1. ROOF DELUGE (ZONE 1) TO BE FITTED WITH TANK COOLING SPRAY NOZZLES 1/2" NPT TO PROVIDE FULL ROOF COVERAGE.
2. SHELL DELUGE (ZONES 2 & 3) TO BE FED BY INDEPENDENT RISERS WITH AT LEAST A TOP EDGE DISTRIBUTION RING, WITH ANY ADDITIONAL RINGS TO SUIT RUNDOWN AND WATER DISTRIBUTION.
   EACH SHELL RING SHALL BE FITTED WITH TANK COOLING SPRAY NOZZLES 1/2" NPT.
3. SHELL APPLICATION RATE TO BE 2L/MIN/M^2.
   ROOF APPLICATION RATE TO BE 4L/MIN/M^2.
4. LINE SIZES AND NUMBER OF DISTRIBUTION RINGS & SPRAY NOZZLES TO BE CONFIRMED AFTER FINAL DESIGN.
5. ALL DELUGE VALVE SKID PIPING TO BE GALVANISED.
6. DELUGE VALVES TO BE CAPABLE OF REMOTE/LOCAL ACTIVATION, VALVES TO BE PNEUMATICALLY OPERATED, ELECTRICALLY ACTIVATED TYPE SUITABLE FOR USE WITH SEAWATER.
   VALVES TO BE APPROVED BY A RECOGNISED BODY SUCH AS UL ETC.
7. SKID ELECTRICAL EQUIPMENT TO BE SUITABLE FOR OUTDOOR USE IN A ZONE 1 HAZARDOUS AREA TO MEET ATEX OR Eexd IIc T6 REQUIREMENTS.
8. SKID UNIT TO BE FITTED WITH SUNSHADE OF SUITABLE DESIGN.
9. DELUGE SKID TO HAVE ADEQUATE ACCESS TO ALL VALVES AND INSTRUMENTS.
10. ALL DELUGE VALVE SKID PIPING TO BE GALVANISED.
11. DELUGE VALVES TO BE CAPABLE OF REMOTE/LOCAL ACTIVATION, VALVES TO BE PNEUMATICALLY OPERATED, ELECTRICALLY ACTIVATED TYPE SUITABLE FOR USE WITH SEAWATER.
    VALVES TO BE APPROVED BY A RECOGNISED BODY SUCH AS UL ETC.
12. SKID ELECTRICAL EQUIPMENT TO BE SUITABLE FOR OUTDOOR USE IN A ZONE 1 HAZARDOUS AREA TO MEET ATEX OR Eexd IIc T6 REQUIREMENTS.
13. SKID UNIT TO BE FITTED WITH SUNSHADE OF SUITABLE DESIGN.
14. DELUGE SKID TO HAVE ADEQUATE ACCESS TO ALL VALVES AND INSTRUMENTS.
15. FOR DESIGN BASIS, REFER TO 07006-MC-25-515-00 AND 07006-TG-GZ-001-01
16. PIPE AT TP5 SPLITS INTO 2-4" PIPES AND REJOINS AT THE BASE OF THE TANK RISER.

TIE-IN POINT SCHEDULE

TP	LOCATION	CONNECTION
1	EXISTING FIRE RING MAIN	12" ANSI B16.5 150# RF
2	DELUGE SKID	4" ANSI B16.5 150# RF
3	DELUGE SKID	4" ANSI B16.5 150# RF
4	DELUGE SKID	6" ANSI B16.5 150# RF
5	DELUGE SKID	4" ANSI B16.5 150# RF
6	DELUGE SKID	4" ANSI B16.5 150# RF
7	DELUGE SKID	6" ANSI B16.5 150# RF
8	DELUGE SKID	10" ANSI B16.5 150# RF
9	DELUGE SKID	4" ANSI B16.5 150# RF
10	DELUGE SKID	4" ANSI B16.5 150# RF
11	DELUGE SKID	6" ANSI B16.5 150# RF
12	DELUGE SKID	1" INST. MALE COUPLING
13	DELUGE SKID	2 " INST. MALE COUPLING
14	DELUGE SKID	2" INST. MALE COUPLING
15	DELUGE SKID	2" INST. MALE COUPLING
16	DELUGE SKID	2" INST. MALE COUPLING
17	DELUGE SKID	10" ANSI B16.5 150# RF
18	DELUGE SKID	10" ANSI B16.5 150# RF

BATTERY LIMIT SCHEDULE

BL	FLOW L/min	PRESSURE bar
1	1555	7
2	2475	7
3	4081	7
4	10168	7
5	1555	7

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPR.
07	05/09/09	AS BUILT	SZH	BIK	-
06		AS BUILT (CR-086)	JS		
05	11/11/08	DESIGN UPDATE (CR-075)	JS	LUC	JGC
04	12/09/08	TABLES & LINE SIZES REVISED (CR-070)	JH	JM	MH
03	11/07/08	MODIFIED TO VENDOR REQUIREMENTS (CR-058)	JS	JM	JGC
02	27/06/08	PRELIMINARY ISSUE (CR-055)	JS	LUC	AGS
01	14/03/08	APPROVED FOR CONSTRUCTION	JS	LUC	MH
		(CR-025 AND CR-032)			
00	19/10/07	FIRST ISSUE	JS	LUC	MH

CLIENT

ENGRO VOPAK TERMINAL LIMITED

PROJECT

ETHYLENE STORAGE AND HANDLING FACILITY
KARACHI, PAKISTAN

Excellent Engineering Solutions
WEIR LGE PROCESS
Young House
42 Discovery Terrace
Edinburgh EH14 4AP
Scotland U.K.
Tel. : +44(0)131 317 8787
Fax. : +44(0)131 452 3333
E-mail : info@lgeprocess.com

TITLE

P&I Diagram
TANK FIREWATER SYSTEM

DRAWING No.	REV.	NEXT SHEET	SCALE	SIZE
07006-PD-10-007-01	07	02	NTS	A1

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