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COMPUTER FILE NAME

SIGN. AND DATE REF. DRG. NO.

INVENTORY NO

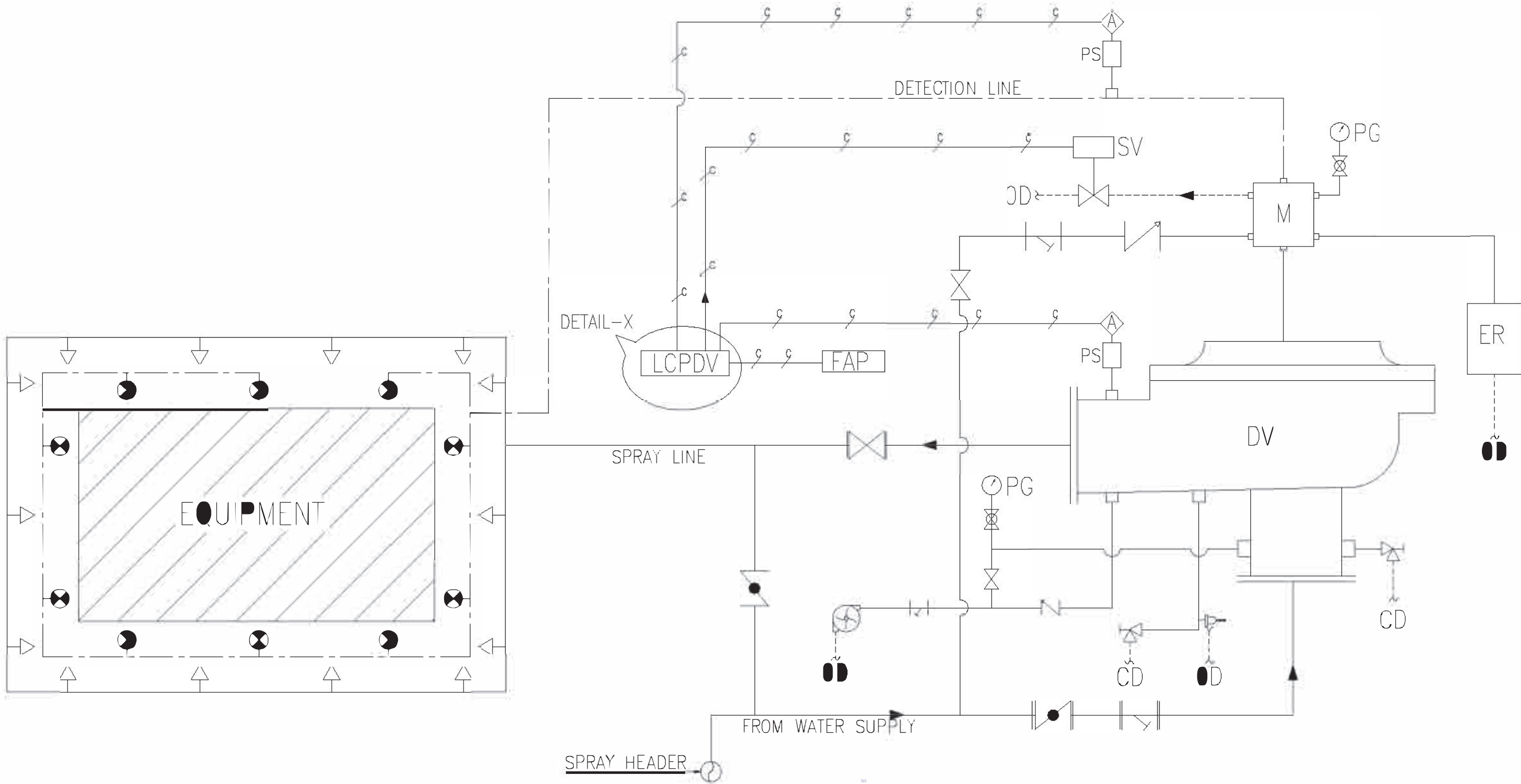
GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY02302061

JCS

DRG. NO. PY-DP-1-M087-8315-02

SH. 01 OF 01

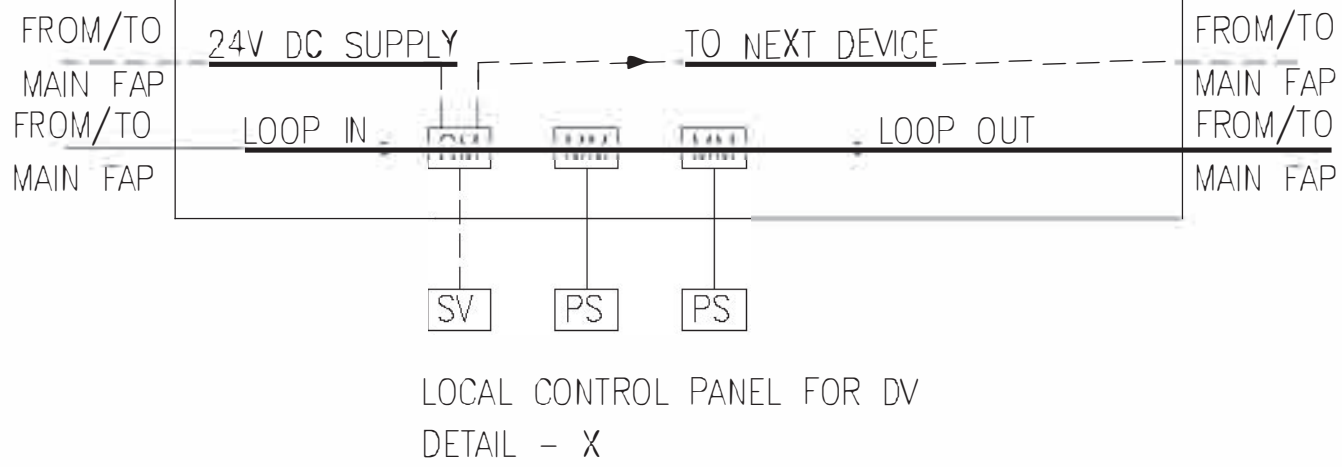
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LEGEND	
SYMBOL	DESCRIPTION
	FIRE WATER SPRAY PIPE
	Q.B. DETECTION LINE
	CONTROL CABLE
	DELUGE VALVE
	BUTTERFLY VALVE
	GATE VALVE
	DELUGE VALVE
	Y TYPE STRAINER
	NON RETURN VALVE
	SPRAY NOZZLE
	Q.B. DETECTOR
	LOCAL CONTROL PANEL FOR DV
	FIRE ALARM PANEL
	PRESSURE SWITCH
	PRESSURE GAUGE
	SOLENOID VALVE
	ALARM BELL
	MONITOR MODULE
	ANNUNCIATION
	ANGLE VALVE
	EMERGENCY RELEASE BOX
	FIRE ALARM PANEL
	MULTI SENSOR SMOKE DETECTOR WITH STANDARD BASE

REF DWG. NO.	
DRAWING NAME	DRAWING NO.
P&ID DIAGRAM INSIDE FIRE WATER PUMP HOUSE	PY-DP-1-M087-8315-01
COMPOSITE LAYOUT OF HYDRANT & SPRAY SYSTEM	PY-LP-1-M087-8315-11
DESIGN BASIS FOR FIRE PROTECTION SYSTEM	PY-SZ-4-M087-8315-01

- NOTES:
- ALL PIPE AT THE DOWNSTREAM OF DELUGE VALVE SHALL BE GALVANISED ONLY. OTHER PIPES SHALL BE MS ERW.
 - SET POINT OF INSTRUMENTS SHALL BE FURNISHED SEPARATELY AFTER FINALISATION OF HYDRAULIC CALCULATION.
 - GATE VALVES SHALL BE PROVIDED FOR EACH DELUGE VALVE ON DOWNSTREAM.
BYPASS LINE FOR DELUGE VALVE SHALL BE PROVIDED WITH BUTTERFLY VALVE.
BUTTERFLY VALVE SHALL BE PROVIDED FOR EACH DELUGE VALVE ON UPSTREAM.
Y- STRAINER SHALL BE PROVIDED AT UPSTREAM OF EACH DELUGE VALVE AFTER BUTTERFLY VALVE.
 - SYSTEM SHALL ALSO HAVE A MANUAL OVER RIDING FACILITY ALONG WITH REGULAR TESTING FACILITY



HVW SPRAY SYSTEM FOR TRANSFORMERS/ EQUIPMENTS
(TYPICAL ARRANGEMENT OF DELUGE VALVE ASSEMBLY)

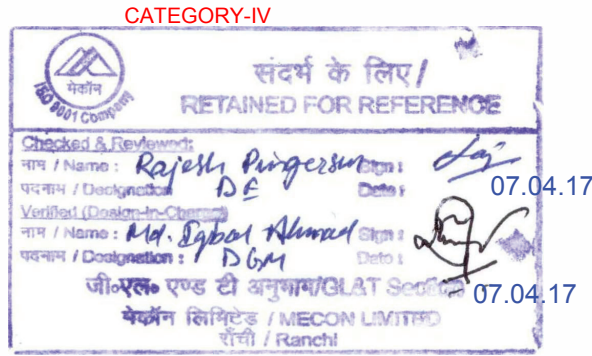


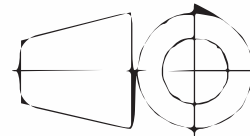
TABLE-1 EQUIPMENTS TO BE PROTECTED BY HVWS SYSTEM	
SN	DESCRIPTION
1	1 NOS OF GENERATOR TRANSFORMER
2	1 NO STATION TRANSFORMER
3	2 NOS OF UNIT TRANSFORMER
4	TURBINE LUBE OIL TANK AND PURIFIER
5	IDLE BURNER FRONT
6	CENTRAL LUBE OIL SYSTEM
7	TURBINE OIL CANAL PIPELINE
8	GENERATOR SEAL OIL SYSTEM

SYSTEM OPERATION	
1	THE WATER SUPPLY TO THE SPRAY SYSTEM WILL BE CONTROLLED BY WET PILOT TYPE DELUGE VALVE WHICH WILL BE OPERATED HYDRAULICALLY AND IS NORMALLY CLOSED BY WATER PRESSURE. DELUGE VALVES SHALL BE TAPPED FROM NEAREST SPRAY HEADER.
2	IN CASE OF HVW SPRAY SYSTEM, THE DETECTION SYSTEM WILL BE OF WATER FILLED DETECTION SYSTEM CONSISTING OF HEAT SENSING DETECTORS OF FUSIBLE TYPE (QUARTZOID BULBS). IN THE EVENT OF FIRE THE SURROUNDING TEMPERATURE INCREASES MORE THAN THE RATED TEMPERATURE OF QBD (79 DEG. C), THE DETECTOR BULB COLLAPSES AND CONSEQUENTLY THERE WILL BE DROP IN PRESSURE IN THE DETECTION NETWORK. THIS DROP IN PRESSURE WILL OPEN THE DELUGE VALVE AND WATER STARTS PROJECTING OUT FROM THE PROJECTORS.
3	THIS WILL FURTHER CAUSE A DROP IN PRESSURE IN THE SPRAY HEADER FROM WHICH WATER SUPPLY IS TAKEN FOR HVWS SYSTEM. THIS PRESSURE DROP IN THE RING MAIN WILL START THE PUMPS AS EXPLAINED IN DESIGN MEMORANDUM.
4	IT IS ALSO POSSIBLE TO ACTUATE DELUGE VALVE BY OPERATING THE PUSH BUTTON PROVIDED ON LCP OF DELUGE VALVE OR BY OPERATING A MANUAL LEVER PROVIDED ON DELUGE VALVE TRIM ASSEMBLY. PROVISION IS ALSO PROVIDED IN LCP OF DELUGE VALVE FOR THE REMOTE OPERATION OF THE SYSTEM THROUGH PLANT CONTROL SYSTEM.
5	AUDIBLE ANNUNCIATION OF FIRE WILL ALSO BE ACHIEVED THROUGH ALARM GONG PROVIDED ON DELUGE VALVE ASSEMBLY.
6	

CUSTOMER: **NTPCL** NTPC-SAIL POWER COMPANY PVT. LTD.

PROJECT: 1 x 250MW THERMAL POWER PLANT IN ROURKELA, ODISHA

CONSULTANT: **MECON LIMITED**
(A GOVERNMENT OF INDIA ENTERPRISE)

 BHARAT HEAVY ELECTRICALS LTD. HYDERABAD				NAME	SIGN.	DATE	NO.OF VAR.	
		DRN.		SUMANT	—SD—	12.01.17		
		CHD.		AMIT	—SD—	13.01.17		
		APPD.		MNSR	—SD—	15.01.17	—N.A.—	
DEPT. I.T.D.		UNTOL. DIMS. GR. -C/M/F-		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG. —N.A.—	ITEM NO.	NO.OF ITEMS
CODE 415	—N.A.—						—N.A.—	
TITLE					CARD CODE N.A.	DRAWING NO. PY-DP-1-M087-8315-02		REV. 01
P&ID FOR HVWS SYSTEM						SHT. No 01		NO. OF SHT. 01