

UTILITY POWER FAILURE	GENERAL POWER FAILURE	FUNCTION PERFORMED		
		DESCRIPTION	CONTROL TAG:	DWG. No.:
PF/O	PF/O	ABC SAFETY VENT	SV-1008	PI-101
EP	S	KILN DRIVE	PB-1003	PI-101
EP	S	COMBUSTION AIR FAN K-101	PB-1001	PI-101
EP	S	COOLING AIR FAN K-103	PB-1002	PI-101
EP	S	HEAT TRANSFER FLUID PUMP P101 A OR B	PB-1054/55	PI-103
S	S	APRON FEEDER C-404	SV-1036	PI-102
S	S	PUMP C-404M		PI-102
C	C	DOUBLE FLOP GATE-UPPER	SV-1035	PI-102
C	C	DOUBLE FLOP GATE-LOWER	SV-1034	PI-102
C	C	DISCHARGE GATE (CLOSE)	SV-1033A	PI-102
C	C	(MILL COMPLETE FEED CYCLE)		
C	C	KILN BLEND FEED BLOCK VALVE	HV-1120	PI-105
C	C	KILN BLEND FEED CONTROL VALVE	FV-1121	PI-105
C	C	KILN FUEL OIL BLOCK VALVE	SV-1130	PI-105
C	C	KILN FUEL OIL CONTROL VALVE	FV-1131	PI-105
A/I	C	KILN PILOT BLOCK VALVE	SV-1140	PI-105
A/I	O	KILN PILOT VENT VALVE	SV-1137	PI-105
A/I	C	KILN PILOT BLOCK VALVE	SV-1101	PI-105
A/I	O	KILN PRIMARY COMBUSTION AIR DAMPER	FV-1143	PI-105
A/I	C	KILN PILOT SECONDARY BLOCK VALVES	SV-1137/1142	PI-105
C	C	DIRECT BURN LIQUID FEED BLOCK VALVE	HV-1170	PI-106
C	C	KILN AQUEOUS LIQUID FEED BLOCK VALVE	HV-1150	PI-106
C	C	KILN AQUEOUS LIQUID FEED BLOCK VALVE	FV-1151	PI-106
S	S	KILN SLUDGE FEED PUMP	P-103	PI-106
C	C	KILN SLUDGE VALVE TO KILN	FV-4021	PI-106
C	C	KILN SLUDGE VALVE TO KILN	HV-4022	PI-106

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		DESCRIPTION	CONTROL TAG:	DWG. No.:
S	S	KILN SLUDGE FEED PUMP P-406	PB-4059	PI-402
S	S	KILN BLEND FEED PUMP P-306 A/B	PB-1243/1250	PI-314
EP	S	KILN FUEL OIL FEED PUMP P-305 A/B	PB-3358/9	PI-601
S	S	KILN AQUEOUS LIQUID FEED PUMP P-304 A/B	PB-3334/5	PI-315
C	C	DRUM PUMPING STATION BLOCK VALVE	SV-3016	PI-302
C	C	AIR TO DRUM PUMP STA EDUCATOR VALVE	SV1208	PI-109
O	O	N2 TO DRUM PUMP STA EDUCATOR VALVE	SV1209	PI-109
C	C	ABC BLEND FEED BLOCK VALVE	HV-1183	PI-107
C	C	ABC BLEND FEED CONTROL VALVE	FV-1184	PI-107
EP	C	ABC FUEL OIL BLOCK VALVE	SV-1193	PI-107
EP	C	ABC FUEL OIL CONTROL VALVE	FV-1194	PI-107
A/I	C	ABC PILOT BLOCK VALVE	SV-1190	PI-107
A/I	O	ABC PILOT VENT VALVE	SV-1198	PI-107
A/I	O	ABC PRIMARY COMBUSTION AIR DAMPER	FV-1192	PI-107
A/I	C	ABC PILOT SECONDARY BLOCK VALVES	SV-1179/1180	PI-107
EP	S	ABC COMBUSTION AIR FAN K102 A/B	PB-1142/1851	PI-107
C	C	ABC AQUEOUS LIQUID FEED BLOCK VALVE	HV-1262	PI-109
C	C	ABC AQUEOUS LIQUID FEED CONTROL VALVE	FV-1263	PI-109
C	C	ABC BLEND FEED BLOCK VALVE	HV-1220	PI-108
C	C	ABC BLEND FEED CONTROL VALVE	FV-1221	PI-108
EP	C	ABC FUEL OIL BLOCK VALVE	SV-1230	PI-108
EP	C	ABC FUEL OIL CONTROL VALVE	FV-1231	PI-108
A/I	C	ABC PILOT BLOCK VALVE	SV-1240	PI-108
A/I	O	ABC PILOT VENT VALVE	SV-1241	PI-108
A/I	C	ABC PILOT BLOCK VALVE	SV-1242	PI-108
A/I	O	ABC PRIMARY COMBUSTION AIR DAMPER	FV-1247	PI-108
A/I	C	ABC PILOT SECONDARY BLOCK VALVES	SV-1245/1248	PI-108
C	C	ABC AQUEOUS LIQUID FEED BLOCK VALVE	HV-1262/52	PI-109

UTILITY POWER FAILURE	GENERAL POWER FAILURE	FUNCTION PERFORMED		
		DESCRIPTION	CONTROL TAG:	DWG. No.:
C	C	ABC AQUEOUS LIQUID FEED CONTROL VALVE	FV-1263/53	PI-109
A/I	PF-O	S.D. TOP HEADER EMERGENCY WATER VALVE	SV-2046	PI-208
A/I	PF-O	S.D. MID POINT HEADER EMERGENCY WATER VALVE	SV-2047	PI-208
A/I	O	BAGHOUSE EMERGENCY BYPASS	ZAL-2021	PI-202
A/I	PF-O	SATURATOR EMERGENCY WATER SPRAY VALVES - 2"	HV-2083	PI-204
A/I	PF-O	SATURATOR DELUGE VALVE - 10"	HV-2084	PI-204
A/I	PF-O	SCRUBBER RUNDOWN EMERGENCY DRAIN VALVE	HV-2090 & HV-2091	PI-204
EP	S	WESP	PB-2181A/B	PI-211
EP	S	INDUCED DRAFT FAN	PB-2191	PI-212
A/I	PF-O	SATURATOR WATER VALVE - 4"	SV-2081	PI-204
C	C	SPRAY DRYER BRINE VALVE	HV-2118	PI-208
O	O	SPRAY DRYER WATER VALVE	HV-2119	PI-208
A/I	PF-O	SPRAY DRYER WATER TANK N° VALVE	SV-2061	PI-208
EP	OFF	EMERGENCY LIGHTING		
EP	S	UPS		
S	S	HEAT TRACING		
EP	S	KILN GUIDANCE SYSTEM H-106M	PB-3012	PI-101
EP	S	KILN BRAKE H-104M	PB-1003	PI-101
EP	S	HYDRAULIC OIL PUMP MOTOR P-102	PB-1919	PI-102
S	S	HEAT EXCHANGER COOLING WATER RECIRC. PUMP P-204 A/B	PB-2156/7	PI-209
EP	S	AIR COMPRESSOR P-601 B/C/D	PB-6007	PI-604
(EP)	S	PROCESS WATER PUMP P-605 A/B	PB-6126A/B	PI-607
EP	S	1st STAGE SCRUBBER CIRC. PUMP P-205 A, B, OR C	PB-2206 & PB-2214	PI-205
EP	S	SPRAY DRYER FEED PUMP	UA-2017	PI-208
EP	S	PUMP P-206 A, B, OR C	UA-2018	PI-208
EP	S	SATURATOR CIRCULATION PUMP P-203 A OR B	PB-2206	PI-205

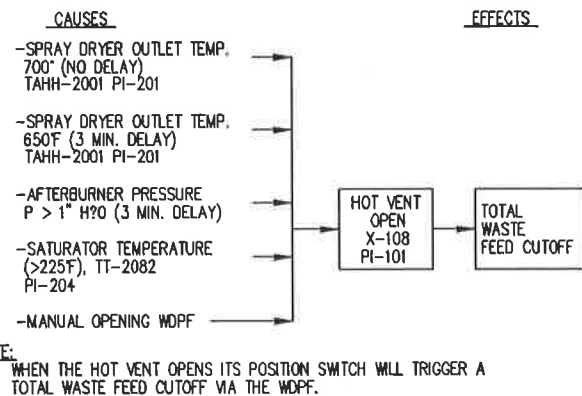
UTILITY POWER FAILURE	GENERAL POWER FAILURE	FUNCTION PERFORMED		
		DESCRIPTION	CONTROL TAG:	DWG. No.:
EP	S	2nd STAGE SCRUBBER CIRC. PUMP P-202 A, B, OR C	PB-2152 & PB-2160	PI-206
EP	S	WESP FOGGING PUMP P-201 A OR B	PB-2174A/B	PI-211
EP	S	DESLAGGER C-102	PB-1809	PI-110
S	S	COOLING TOWER FAN K-202 A OR B	PB-3138 & PB-3115	PI-209
EP	S	SODA ASH SOLUTION FEED PUMP P-208 A OR B	PB-2312 & PB-2320	PI-207

LEGEND

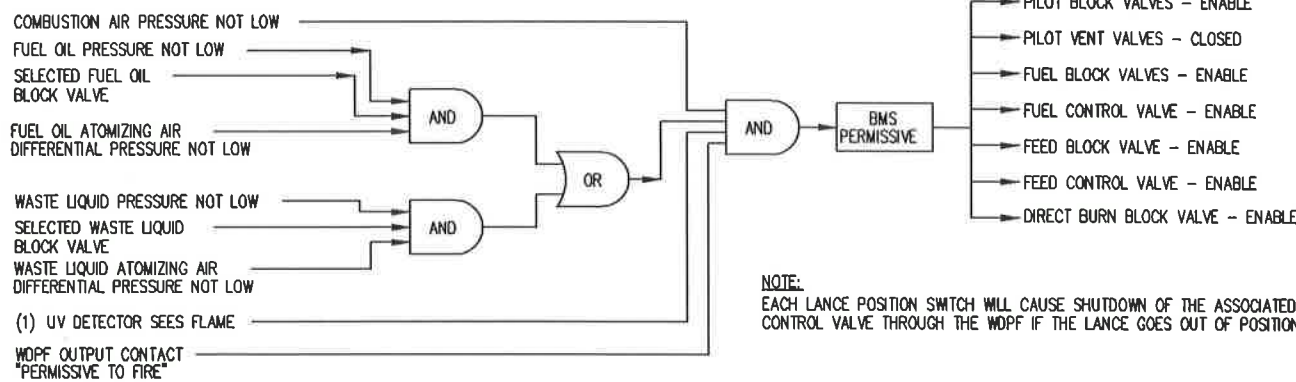
C = CLOSED
O = OPEN
S = STOPPED OR SHUTDOWN
EP = RESTARTS ON EMERGENCY POWER
A/I = STAYS AS IS
UPS = STAYS ON LINE WITH BATTERY POWER
PF = ACTUATED AS RESULT OF OTHER PROCESS FUNCTIONS AND INTERLOCKS

* NOT COMPLETED

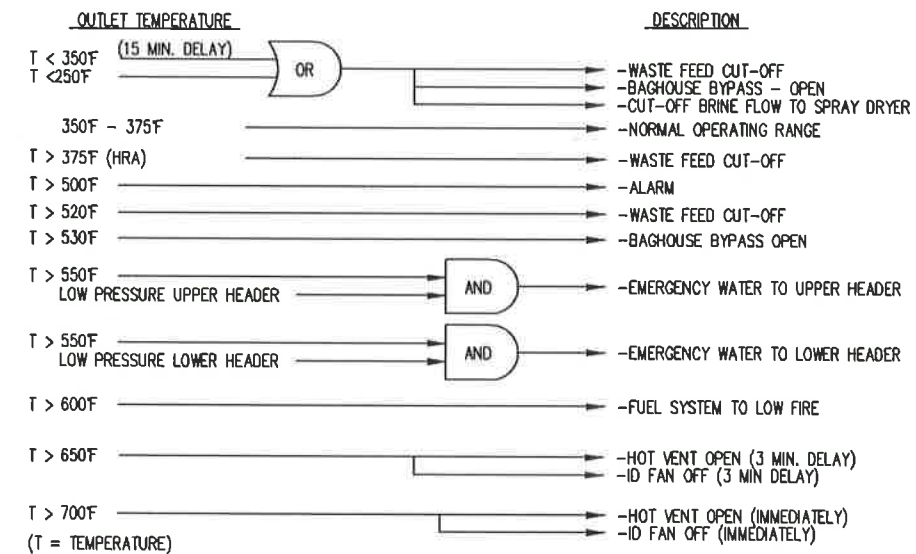
ABC HOT VENT OPENING



BURNER MANAGEMENT SYSTEM RUN TIME PERMISSIVE LOGIC DIAGRAM TYPICAL DURING NORMAL OPERATIONS

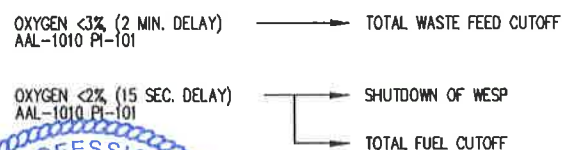


SPRAY DRYER OUTLET TEMPERATURE LOGIC DIAGRAM

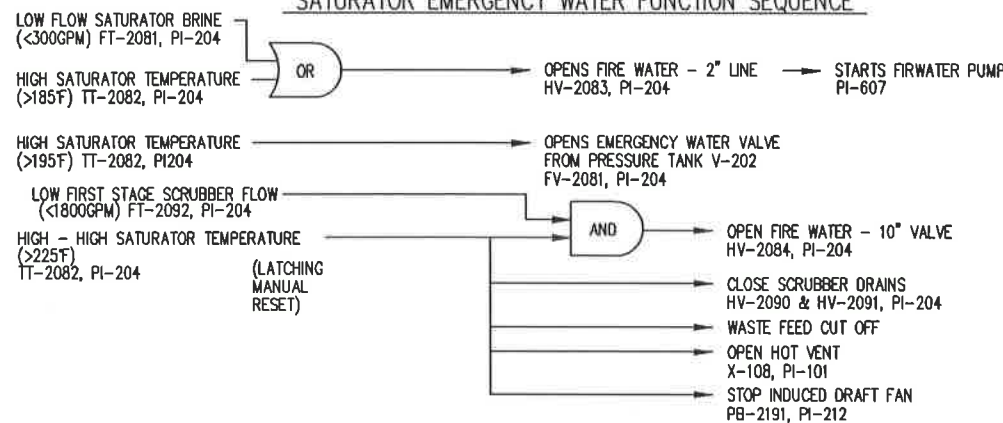


AFTERBURNER CHAMBER - LOW OXYGEN

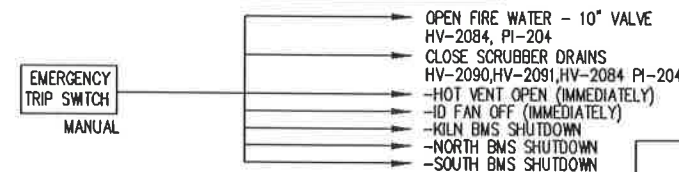
LOGIC DIAGRAM



SATURATOR EMERGENCY WATER FUNCTION SEQUENCE



EMERGENCY TRIP SWITCH



DESCRIPTION

REVISIONS

REVISIONS

NO	DESCRIPTION	DATE	BY	CHK	ENG MGR	NO	DESCRIPTION	DATE	BY	CHK	MEDI	ENG MGR
15	REMOVED CONTROL VALVE FV1171	2-16-00	GVC			16	ADDED SV-3016	11-3-03	KL			
16	ADDED T <250F & 15 MIN. DELAY	09-18-00	GVC			17	ADDED SV1208, SV1209	11-13-03	KL			
17	ADDED AQUEOUS TO KILN	01-17-01	GVC			18	CHANGED SPRAY DRYER TEMP LIMIT	02-15-05	LC			
18	NEW PERMIT REQUIREMENTS AS OF DEC 27	1-15-02	KL			19	ADDED EMERGENCY TRIP SWITCH	01-22-20	JWR	SJ	TH	JWR
19	NEW AIR PERMIT REQUIREMENTS	05-16-02	LC			20	AS-BUILT	03-16-21	KB	TH	SS	KB

APPROVALS

BY	DATE
DRN	12-23-97
ELEC	
MECH	
STRUCT	
PROJECT ENG	
ENGINEERING MGR	
AS BUILT	



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TITLE
UTAH ENVIRONMENTAL SERVICE CENTER
INCINERATION PLANT FOR INDUSTRIAL WASTES
MASTER INTERLOCK SYSTEM, SHEET 2

FOR	TOORLE SITE	CAD NO.	IA221U
SCALE	JOB NO	SAFETY-KLEEN DWG NO	REV
NA		D-034-PI-004	24

REGISTERED PROFESSIONAL ENGINEER
DATE: