

PLOT DATE: May 28, 2014, 14:58 THE INFORMATION CONTAINED HEREIN IS THE CONFIDENTIAL PROPERTY OF ENERFLEX, LTD. AND IS NOT FOR PUBLICATION, AND NO PART THEREOF SHALL BE COPIED OR COMMUNICATED TO A THIRD PARTY WITHOUT AUTHORIZATION FROM ENERFLEX, LTD.

LINE IDENTIFICATION A-B-CD-EF-GHIJ-KLM-N			VALVE IDENTIFICATION A"BCDE,F			LINE CODE			(MODIFIER)		INSTRUMENT IDENTIFICATION GENERAL REFERENCE (ISA - S5.1)													
A : NOMINAL LINE SIZE IN INCHES B : FLUID / SERVICE			A : NOMINAL VALVE SIZE IN INCHES B : TYPE						FIRST LETTER		SUCCEEDING LETTERS		PRIMARY ELEMENT	INDICATOR	RECORDER	CONTROLLER			TRANS-MITTER	CONTROL		CONTROL VALVE OR REGULATOR	SELF-ACTIVATED VALVE	RELAY OR CONVERTOR
																BLIND	INDICATING	RECORDING		SWITCH	ALARM			
A : AMMONIA IG INSTRUMENT GAS AM AMINE L LUBE OIL C CARBON DIOXIDE N NITROGEN CO CARBON MONOXIDE NG NATURAL GAS CW COOLING WATER O OXYGEN F FREON P PROPANE FG FUEL GAS PG PURGE GAS G GLYCOL R REFRIGERANT H HYDROGEN S STEAM HE HELIUM SG SYNGAS HG HYDROCARBON GAS V PRODUCED WATER HL HYDROCARBON LIQUID W WATER IA INSTRUMENT AIR			A ANGLE GLOBE N NEEDLE B BALL P PLUG C CHECK S START-UP STRAINER G GATE T TEE STRAINER L GLOBE U BUTTERFLY M MANIFOLD Y Y PATTERN STRAINER								ALARM		AE	AI	AR	AC	AIC	ARC	AT	AS()	AA()	AV		AY
C : EQUIPMENT TYPE / MODIFIER (IF REQUIRED) B BLOWER OR FAN H HEATER C COMPRESSOR JB JUNCTION BOX CPL CONTROL PANEL P PUMP D DRIVER (MOTOR/ENGINE) T TOWER OR TANK E EXCHANGER UH UNIT HEATER F FILTER V PRESSURE VESSEL FS FLARE STACK			C : BODY MATERIAL B BRONZE L LOW TEMP. CARBON STEEL C CARBON STEEL S STAINLESS STEEL I CAST IRON								CONTROL OR CLOSE		CE	CI	CR	CC	CIC	CRC	CT	CS()	CA()	CV		CY
D : EQUIPMENT NUMBER: 101 TO 999 SEQUENTIAL NUMBERS			D : END CONNECTIONS 1 FLANGED 150# B BUTT WELD 3 FLANGED 300# C SW BY NPT 6 FLANGED 600# F NPT BY FLANGE (MANIFOLD) 9 FLANGED 900# M NPT MALE BY NPT FEMALE 15 FLANGED 1500# N NPT (THREADED) 25 FLANGED 2500# S SW (SOCKETWELD) T TUBE (IE: SWAGelok)								DIFFERENTIAL		DE	DI	DR	DC	DIC	DRC	DT	DS()	DA()	DV		DY
CD LINES TO/FROM SKID CALLED UP AS INLET, OUTLET, HEADER, DRAIN, SUPPLY, ETC.											PRIMARY ELEMENT		EE	EI	ER	EC	EIC	ERC	ET	ES()	EA()	EV		EY
EF : LINE NUMBER: E : 1 TO 9 SEQUENTIAL NUMBERS FROM EQUIPMENT 1.1 FOR 1ST BRANCH CONNECTION FROM 1ST LINE 1.2 FOR 2ND BRANCH CONNECTION FROM 1ST LINE F : SKID/AREA REFERENCE LETTER (A, B, C,...) (*X' SIGNIFIES OFF SKID/INTERCONNECTING PIPE)											SHUTDOWN FIRST OUT		FE	FI	FR	FC	FIC	FRC	FT	FS()	FA()	FV	FCV	FY
GHIJ : PIPING SPECIFICATION G : MATERIAL GROUP C CARBON STEEL L LOW TEMPERATURE CARBON STEEL S STAINLESS STEEL H : ANSI 16.5 FLANGE CLASS 0 NON CODE 1 150# 6 600# 15 1500# 3 300# 9 900# 25 2500# I : LINE MATERIAL SPECIFICATION REFERENCE: PIPING SPECIFICATION NUMBER J : R RECIPROCATING PACKAGE SPECIFICATION BLANK FOR PROCESS PACKAGE SPECIFICATION KLM : INSULATION (IF REQUIRED) K : INSULATION TYPE C COLD HT HEAT TRACING H HOT PP PERSONAL PROTECTION HC HOT/COLD L : INSULATION THICKNESS IN MILLIMETERS OR INCHES (") M : TRACING (IF REQUIRED) ET ELECTRICAL TRACING GT GLYCOL TRACING ST STEAM TRACING											GLASS		GE	GI	GR	GC	GIC	GRC	GT	GS()	GA()	GV		
N : PED PIPE IDENTIFICATION SUFFIX (IF REQUIRED) SEP SOUND ENGINEERING PRACTICE LINE CATI CATEGORY I LINE CATII CATEGORY II LINE CATIII CATEGORY III LINE EXAMPLE: 3"-HG-V101-1A-C61R-HTXX,ET-CATII 3" - NOMINAL LINE SIZE HG - HYDROCARBON GAS V101 - PRESSURE VESSEL TAG NUMBER 1A - 1 FIRST LINE FROM VESSEL A LOCATED ON SKID/AREA 'A' C61R - C CARBON STEEL LINE 6 600# ANSI FLANGE RATING 1 LINE MATERIAL SPECIFICATION REFERENCE R RECIPROCATING PACKAGE PIPE SPEC. HT - HEAT TRACING INSULATION XX - THICKNESS IN MILLIMETERS OR INCHES (") ET - ELECTRIC TRACING CATII - PED CATEGORY II LINE											ORIFICE OR OPEN													
											POINT		PE	PI	PR	PC	PIC	PRC	PT	PS()	PA()	PV	PCV	PY
											QUANTITY OR EVENT (INTEGRATE/TOTALIZE)			QI	QR	QC	QIC	QRC	QT	QS()	QA()	QV		QY
											RECORD OR PRINT		RE	RI	RR	RC	RIC	RRC	RT	RS()	RA()			RY
											SWITCH OR SAFETY			SI	SR	SC	SIC	SRC	ST	SS()	SA()			SY
											TRANSMIT		TE	TI	TR	TC	TIC	TRC	TT	TS()	TA()	TV	TCV	TY
											MULTIFUNCTION			UI	UR	UC	UIC	URC				UV		
											VALVE OR DAMPER		VE	VI	VR	VC	VIC	VRC	VT	VS()	VA()	VV		VY
											WELL		WE	WI	WR	WC	WIC	WRC	WT	WS()	WA()	WV		WY
											UNCLASSIFIED (DIAGNOSTIC)		XE	XI	XR	XC	XIC	XRC	XT	XS()	XA()	XV		XY
											RELAY OR COMPUTE													YY
											DRIVE OR ACTUATE		ZE	ZI	ZR	ZC	ZIC	ZRC	ZT	ZS()	ZA()			ZY

VALVE CONNECTIONS

(COMBINATIONS MAY BE USED)

THREADED

SOCKET WELDED

BUTT WELDED

FLANGED

VALVE TYPES

ANGLE GLOBE VALVE

BALL VALVE

BUTTERFLY VALVE

CHECK VALVE

DIAPHRAGM VALVE

DUMP VALVE

GATE VALVE

GAUGE VALVE

GLOBE VALVE

NEEDLE VALVE

NEEDLE VALVE W/BLEED

MANIFOLD VALVE

PLUG VALVE

PINCH VALVE

QUICK ACTING VALVE

VALVE W/PLUG

3-WAY VALVE

4-WAY VALVE

CONTROL VALVES

DIAPHRAGM CONTROL VALVE

DIAPHRAGM CONTROL VALVE W/ POSITIONER

INLET PRESSURE REGULATOR SELF-CONTAINED

OUTLET PRESSURE REGULATOR SELF-CONTAINED

DIFFERENTIAL PRESSURE REGULATOR SELF-CONTAINED

INLET PRESSURE REGULATOR

OUTLET PRESSURE REGULATOR

HYDRAULIC / PNEUMATIC PISTON OPERATED OR SPRING RETURN

PNEUMATIC RELAY VALVE

2-WAY SOLENOID VALVE

MOTOR ACTUATED

ROTARY MOTOR ACTUATED

3-WAY SOLENOID VALVE

THERMOSTATIC CONTROL VALVE

PRESSURE SAFETY /RELIEF VALVE

DESIGNATES API ORIFICE SIZE

PRESSURE SAFETY /RELIEF VALVE PILOT OPERATED

DESIGNATES API ORIFICE SIZE

MISCELLANEOUS

INLINE FLANGE SET

SPECTACLE BLIND (LINE OPEN)

SPECTACLE BLIND (LINE CLOSED)

UNION (NPT)

ORIFICE FLANGE W/ SPACER

PADDLE BLIND

BLEED RING

BASKET STRAINER

CONE STRAINER

CONCENTRIC REDUCER

ECCENTRIC REDUCER

EXPANSION JOINT

FLEXIBLE HOSE

FLEXIBLE COUPLING

TEE STRAINER

Y-PATTERN STRAINER

MAGNETIC METER

VENTURI

SIGHT GLASS

SONIC FLOW METER

POSITIVE DISPLACEMENT METER

TURBINE OR PROPELLOR METER

VORTEX METER

BALL CHECK VALVE

THROTTLE BLOCK

PIG LAUNCHER / RECEIVER

METER RUN

FLOW INDICATOR

CONTINUOUS LIQUID DRAINER OR STEAM TRAP

SPEC BREAK

OPEN DRAIN

INSULATION TYPE

INSULATION BLOCK W/ ELECTRIC HEAT TRACE

INSULATION BLOCK W/ GLYCOL OR STEAM HEAT TRACE

SPECIALTY ITEM

PIPE SLOPE DIRECTION

VORTEX BREAKER

DIAPHRAGM SEAL

RUPTURE DISC FOR PRESSURE RELIEF

RUPTURE DISC FOR VACUUM RELIEF

EYE WASH

SAFETY SHOWER

SKID TIE-POINTS

INSTRUMENT AIR

INSTRUMENT GAS

CURRENT/PRESSURE

SPRAY NOZZLE

VENT CAP

BEVELED PIPE END

END CAP

PLUG

LINE BREAK

CONTINUATION ARROW

CONTINUATION ARROW DUAL DIRECTION

INSTRUMENTS

LOCAL MOUNTED

LOCAL PANEL MOUNTED

LOCAL PANEL MOUNTED BEHIND OR INSIDE

MAIN PANEL MOUNTED

MAIN PANEL MOUNTED BEHIND OR INSIDE

BY OTHERS

HUMAN MACHINE INTERFACE HMI (DCS)

HUMAN MACHINE INTERFACE HMI (PLC)

ENGINE CONTROL

PROGRAMMABLE LOGIC CONTROLLER (PLC)

ALARM/SHUTDOWN

INTERLOCK

ELECTRICAL INTERLOCK (HARDWIRE)

THERMOWELL (THREADED)

THERMOWELL (SOCKET WELDED)

THERMOWELL (FLANGED)

PILOT LIGHT

* COLOUR
(A) AMBER (B) BLUE
(G) GREEN (O) ORANGE
(R) RED (W) WHITE

FOR REFERENCE ONLY

NAME: G.PAHL DATE: JAN 25/13

Doc # 31979-02-C02-0199-001 WP SDR Code A1/F15