

PIPE LINE IDENTIFICATION			
AA-BB-CC-DEEEE-FFFFFF-GGGG			
CODE	DESCRIPTION	REFERENCE	COMMENT
AA	PLANT CODE	TABLE 1 12-517000D (B1)	SEE NOTE 1
BB	UNIT NUMBER	TABLE 2 12-517000D (B2)	SEE NOTE 2
CC	SYSTEM CODE	TABLE 3 12-517000D (B3)	
D	PIPE TYPE	TABLE 8 12-517000E (L4)	
EEEE	SERIAL NUMBER	7000-7999 BOP	
		8000-8999 FGD	
FFFFFF	PIPE MATERIAL SPEC.	TABLE 11 THIS DWG (E1)	SEE NOTE 4
GGGG	INSULATION MATERIAL SPEC.	TABLE 12 THIS DWG (E5)	SEE NOTE 3 & 5

NOTES:

1. DO NOT SHOW ON DRAWINGS.
2. ONLY SHOWN ON DRAWINGS WHERE EQUIPMENT IS SHOWN FOR MULTIPLE UNITS. DRAWINGS SHOULD NOTE THAT EQUIPMENT/COMPONENTS ARE FOR A SPECIFIC UNIT.
3. SHOWN ON DRAWINGS, BUT NOT PART OF LINE NUMBER.
4. MAXIMUM OF SIX CHARACTERS.
5. MAXIMUM OF FOUR CHARACTERS.

PIPING SPECIALTY IDENTIFICATION			
AA-BB-CCD-EEEE			
CODE	DESCRIPTION	REFERENCE	COMMENT
AA	PLANT CODE	TABLE 1 12-517000D (B1)	SEE NOTE 1
BB	UNIT NUMBER	TABLE 2 12-517000D (B2)	SEE NOTE 2
CC	SYSTEM CODE	TABLE 3 12-517000D (B3)	
D	PIPING SPECIALTY CATEGORY	TABLE 9 12-517000E (L5)	
EEEE	SERIAL NUMBER	7000-7999 BOP 8000-8999 FGD	

NOTES:

1. DO NOT SHOW ON DRAWINGS.
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DRAWINGS SHOULD NOTE THAT EQUIPMENT/COMPONENTS ARE FOR A SPECIFIC UNIT.

POWER ACTUATED VALVE OR DAMPER IDENTIFICATION			
AA-BB-CCDD-EEEE-F			
CODE	DESCRIPTION	REFERENCE	COMMENT
AA	PLANT CODE	TABLE 1 12-517000D (B1)	SEE NOTE 1
BB	UNIT NUMBER	TABLE 2 12-517000D (B2)	SEE NOTE 2
CC	SYSTEM CODE	TABLE 3 12-517000D (B3)	
DD	VALVE/DAMPER TYPE	TABLE 6 12-517000E (L1)	SEE NOTE 4
EEEE	LOOP NUMBER	7000-7999 BOP 8000-8999 FGD	SEE NOTE 3
F	MULTIPLE EQUIPMENT NUMBER	A-Z	LEAVE BLANK IF NOT MULTIPLE EQUIPMENT NUMBER

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3. POWER OPERATED VALVES AND DAMPERS SHALL USE INSTRUMENT LOOP NUMBERS. INSTRUMENTS WITHOUT CONTROL FUNCTIONS SHALL HAVE SERIAL NUMBERS.
4. THE APPROPRIATE ACTUATOR CODE SHALL BE ADDED INSIDE THE ACTUATOR SYMBOL ON THE FLOW DIAGRAM. USE THE ACTUATOR CODES PROVIDED IN THE FOLLOWING TABLE.

ACTUATOR CODE	OPERATOR TYPE
A	AIR MOTOR
B	AIR RELAY
C	CHAIN (MANUAL)
D	DIAPHRAGM
E	ELECTRO-HYDRAULIC
F	FLOAT
G	GEAR (MANUAL)
H	HYDRAULIC
J	GEAR WITH CHAIN
L	LEVER (MANUAL)
M	ELECTRIC MOTOR
P	PISTON (AIR)
R	REGULATOR (PROCESS POWERED)
S	SOLENOID
V	VALVE BOX (MANUAL)
W	DIAPHRAGM WITH HAND WHEEL

SPECIAL VALVE IDENTIFICATION			
AA-BB-CC-DD-EEEE			
CODE	DESCRIPTION	REFERENCE	COMMENT
AA	PLANT CODE	TABLE 1 12-517000D (B1)	SEE NOTE 1
BB	UNIT NUMBER	TABLE 2 12-517000D (B2)	SEE NOTE 2
CC	SYSTEM CODE	TABLE 3 12-517000D (B3)	
DD	SPECIAL VALVE CATEGORY	TABLE 7 12-517000B (L3)	
EEEE	SERIAL NUMBER	7000-7999 BOP 8000-8999 FGD	

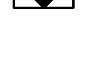
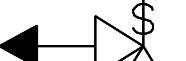
NOTES:

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DRAWINGS SHOULD NOTE THAT EQUIPMENT/COMPONENTS ARE FOR A SPECIFIC UNIT.

SPEC	CLASS	PIPE MATERIAL
12J4S	125	CPVC
12J12S	125	FRP, ABOVE GROUND
12E61S	125	CAST IRON, SERVICE WEIGHT, BELL AND SPIGOT
12J62S	125	POLYETHYLENE SDR 11, IPS
12J8S	125	POLYETHYLENE SDR 11, IPS
12J9S	200	POLYETHYLENE SDR 7.3, IPS
15A1S	150	CARBON STEEL
15A3S	150	CARBON STEEL/FIBERGLASS
15A41S	150	CARBON STEEL (GALVANIZED OUTDOORS)
15A5S	150	CARBON STEEL
15A9S	150	CARBON STEEL
15D1S	150	STAINLESS STEEL, 304
15D3S	150	STAINLESS STEEL, 316
15D41S	150	316 STAINLESS STEEL
15D6S	150	STAINLESS STEEL
15D61S	150	STAINLESS STEEL
15D7S	150	VICTAULIC PRESS FIT 304SS
15D8S	150	304SS VICTAULIC IPS
15G62S	150	GALVANIZED CARBON STEEL/VICTAULIC
15H2S	150	RUBBER LINED CARBON STEEL
15H3S	150	CARBON STEEL, BASALT LINED
15M1S	150	COPPER TUBE, TYPE K
15M3S	150	COPPER BRAZED
15M61S	150	COPPER TUBE, TYPE K
17J41S	200	POLYETHYLENE, FM CLASS 200
30A1S	300	CARBON STEEL
30A5S	300	CARBON STEEL
30D1S	300	STAINLESS STEEL, 304
90A5S	900	CARBON STEEL
15R2	-	COPPER/BRASS-SOLDERED
250A1S	2500	CARBON STEEL
250Q5	-	STAINLESS STEEL WELDED

TABLE 12 - INSULATION CODES	
CODE	DESCRIPTION
AS	ANTI SWEAT
HC	HEAT CONSERVATION
FP	FREEZE PROTECTION
PP	PERSONNEL PROTECTION
N	NONE

VALVE SYMBOLS AND DESCRIPTIONS

	CHECK VALVE		ELECTRICALLY OPERATED DELUGE VALVE
	STOP CHECK VALVE		WET PIPE SPRINKLER VALVE
	AIR PISTON OPERATED POSITIVE CLOSING CHECK VALVE		DRY PILOT SPRINKLER VALVE
	COUNTERBALANCE CHECK VALVE		DRY PIPE SPRINKLER VALVE
	WAFER CHECK VALVE		PRESSURE RELIEF VALVE
	GATE VALVE		VACUUM PRESSURE RELIEF
	GLOBE VALVE		ANGLE VALVE
	BALL VALVE		
	KNIFE GATE VALVE		

VALVE FAILURE SYMSBOLS


 GLOBE, GATE, BALL OR OTHER
 VALVE TYPE SYMBOL
 FO FAIL OPEN
 FC FAIL CLOSED
 FL LOCK IN CURRENT POSITION
 NC NORMALLY CLOSED

ACTUATORS

 M = MOTOR
P = PISTON (AIR)
R = SELF-CONTAINED REGULATOR
S = SOLENOID

PIPING SPECIALTIES

	Y STRAINER
	FILTER
	TRAP
	FLEXIBLE HOSE
	EXPANSION JOINT
	MIXING TEE
	SIGHT FLOW INDICATOR
	SPRAY NOZZLE
	UNION
	RESTRICTION ORIFICE
	CHEMICAL SEAL
	PULSATION DAMPENER
	HOSE CONNECTION/SCREWED CAP
	BUTT WELD CAP
	STEAM LINE DRIP POT DRAIN
	STRAIGHTENING VANES
	BLIND FLANGE
	FLANGES
	REDUCER
	DUPLEX STRAINER
	BASKET STRAINER
	SELF CLEANING STRAINER
	FILTER
	OPEN DRAIN
	RUPTURE DISK
	TEMPORARY STRAINER
	CALIBRATION COLUMN

		WorleyParsons resources & energy		KENTUCKY POWER COMPANY BIG SANDY UNIT 2	
PRELIMINARY STATUS		DATE		BIG SANDY KENTUCKY	
LDE H. J. SHIN		07/19/05			
APPROVED STATUS		DATE		FLOW DIAGRAM STANDARD SYMBOLS	
LDE					
ORIGINATING PERSONNEL		PROFESSIONAL ENGINEER'S SEAL		DWG. No. 2-517000A-E	
DRAWN BY SMM				MECHANICAL ENGINEERING DIVISION	
CHECKED BY L. VENSON-JONES				APPROVED BY	
LEAD DESIGNER B. PIASECKI				DR:	
ENGINEER/TECH SPECIALIST B. GRAEFFE				Cht	
PROJECT ENGINEERING MANAGER S. CASTLE				DES	
				SUPV	
				DATE:	
PROJECT MANAGER S. PIEKOS		ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF P.E. LIT. NO. 1 DATE: _____		AEP SERVICE CORP. RIVERSIDE PLAZA, COLUMBUS, OH 43215	
					