

VALVE SYMBOLS

PG&E & COMMON (NOTE 7) TITLE WESTINGHOUSE

NON-CONTROLLED (MANUAL) SEE VALVE SPEC. - DWG. 049020
ADDITIONAL VALVE DESCRIPTION SERIES NO. PRESSURE RATING TYPE SIZE (SHOWN ONLY IF DIFF. FROM LINE SIZE) FOR TUBING VALVE IDENTIFICATION SEE DWG 053479
VALVE TYPE VALVE SIZE (SPECIFIED ON VALVE REFERENCE GUIDE) DC-663219-30 3/4-T58
ITEM NO. SEE DWG. 102039 (ALTERNATE SPEC)

MODULATING VALVE
NORMALLY CLOSED VALVE (ON-OFF)
NORMALLY OPEN VALVE (ON-OFF)
THROTTLED VALVE (MANUAL)
EXCESS FLOW CHECK VALVE

PG&E USES THE FUNCTIONAL DESIGNATION SHOWN ABOVE

GATE VALVE (DOUBLE DISC)
NEEDLE VALVE
GLOBE VALVE
BALL VALVE
DIAPHRAGM VALVE
BUTTERFLY VALVE
THREWAY VALVE
CHECK VALVE
CHECK VALVE WITH OPERATOR
DAMPER

SEE ABBREVIATION AIR OPERATOR
AIR OPERATOR (WITH POSITIONER)
INSTRUMENT ACTUATED OPERATOR WITH VALVE POSITIONER
PROCESS ACTUATED OPERATOR VALVE WITH VALVE POSITIONER
PROCESS ACTUATED VALVE OPERATOR WITH PILOT (DOWNSTREAM BLEED)
DOUBLE DISC GATE VALVE WITH THERMAL RELIEF CONNECTION

ELECTRIC SOLENOID OPERATOR
ELECTRIC MOTOR OPERATOR
MANUAL REGULATOR OR SELF CONTAINED REGULATOR
PRESSURE REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
RUPTURE DISC
RELIEF VALVE
VACUUM BREAKER
STEM LEAKOFF
ANGLE VALVE
EXTENSION STEM OPERATOR THRU WALL PENETRATION

USES THE VALVE TYPE DESIGNATION SHOWN BELOW

EQUIPMENT SYMBOLS

PG&E & COMMON (NOTE 7) TITLE WESTINGHOUSE

HEAT EXCHANGER (ANY TYPE)
HEAT EXCHANGER (ALTERNATE)
FLOW STRAIGHTENING VANE
PULSATION DAMPENER
POSITIVE DISPLACEMENT PUMP
BLENDER
CENTRIFUGAL PUMP
SMALL CANNED MOTOR PUMP
FAN, BLOWER OR COMPRESSOR
JOHNSON SCREEN
MIXER
EJECTOR, EDUCTOR
RESTRICTING ORIFICE
FLOW PRIMARY ELEMENT
STEAM TRAP (SEE DWG. 049063 FOR DETAILS)
FILTER
STRAINER (NUMBER IS NOT NEEDED FOR START-UP STRAINER)
CONICAL STRAINER (FOR START-UP ONLY)
EXPANSION JOINT
FLEXIBLE CONNECTION
FLEXIBLE HOSE
DISCONNECT COUPLING
BLIND PIPE END (PLUG OR CAP)
BLIND FLANGE
FIRE HOSE CONNECTION
NOZZLE TERMINAL (SIZE SHOWN ONLY IF DIFF. FROM PIPE)
MFR. NOZZLE IDENTIFICATION (IF AVAILABLE)
REDUCER
FLANGE CONNECTION (PIPING OR EQUIPMENT)
HEATER (STEAM OR ELECTRICAL)
LOOP SEAL (TRAP)
SPRAY NOZZLES
SPARGER (INSIDE VESSEL)
SPECTACLE FLANGE
THERMAL SLEEVE

INSTRUMENT SYMBOLS

COMMON (NOTE 7) TITLE

INSTRUMENT NO IDENTIFICATION BALLOON (SEE TABLE BELOW)
INSTRUMENT SCHEMATIC REFERENCE - USED FOR ALL MULTIPLE DEVICE INSTRUMENT LOOPS.
INSTRUMENT NO. COMPUTER INPUT NO.
MECHANICAL PANEL NO. (SEE DWG. 101904)
INST. FUNCTION - SEE LISTING BELOW (USED FOR SINGLE DEVICE INSTRUMENT ONLY)

DEVELOPMENT OF TAG NO. DESIGNATION (SEE ALSO SPECIAL TAGS)										
INSTRUMENT FUNCTION (ATTACHED TO PIPE ONLY)										
	PROCESS VARIABLE	THE THERMOCOUPLER FOR THE SENSOR	ABBREVIATION	CONTROL VALVE	INDICATOR	SENSOR OR ELEMENT	SWITCH	CONTROL		
ANALYSIS	-	AN	-	ANI	CEL	ANS	-	ANX	ANT	-
FLOW	-	F	FCV	FI	FE	FS	FIS	FX	FT	FC
LEVEL	-	L	LCV	LI	-	LS	LIS	LX	LT	LC
NUCLEAR	-	N	-	NI	NE	-	-	-	NC	NIC
PRESSURE	-	P	PCV	PI	-	PS	PIS	PX	PT	PC
RADIATION	-	R	RCV	RI	RE	RS	RIS	RX	RT	RC
TEMPERATURE	TW	T	TCV	TI	TE	TS	TIS	TX	TT	TC
POSITION	-	PD	PO	POI	-	POS	-	-	POT	-
MISC. (VIBRATION SW, SPEED CONTROL, ETC.)	-	Y	YCV	YI	YE	YS	YIS	YX	YT	YC

▲ POSITIONER
● TI - USED FOR THERMOCOUPLER ELEMENT ALSO
○ TE - USED FOR RTD ELEMENT ONLY

INST. FUNCTION LEGEND: APS-AUTOMATIC PUMP START/STOP, HIA-HIGH ALARM, LOA-LOW ALARM, INT-INTERLOCK, TST-TEST, HLA-HIGH/LOW ALARM

SPECIAL TAG: RV-RELIEF VALVE, SC-SAMPLE COOLER, SV-SOLENOID VALVE, STR-STRAINER, TRP-TRAP, HCV-HAND CONTROL VALVE, RTD-RESISTANCE TEMPERATURE DETECTOR, FY-SAMPLE PUMP

GENERAL NOTES:
1. FOR UNIT LINE NO. SEE LINE DESIGNATION (108040)
2. SEE INDIVIDUAL SCHEMATIC FOR SPECIAL SYMBOLS NOT SHOWN ON THIS LEGEND.
3. ON VENTS AND DRAINS WHERE A DOUBLE BARRIER IS REQUIRED REFER TO DWG. 049066 NOTE 4.
4. DC-663211 - 16
5. ALL VALVES SHOWN TO HAVE LEAKOFF CONNECTIONS SHALL BE PERMANENTLY PIPED TO THE APPROPRIATE DRAIN POINT. ALL OTHER VALVES WITH LEAKOFF WILL HAVE LEAKOFF CONNECTIONS CAPPED.
6. (---) SUPPLIED WITH ASSOCIATED EQUIPMENT. (SEE PIPING SCHEMATIC FOR SPECIFIC INFO.)
7. (---) INDICATES PIPE NOT SUPPLIED BY KELCOG (8711) OR SCOTT (8831) (SEE PIPING SCHEMATIC FOR SPECIFIC INFORMATION)
8. (---) COMMON-INDICATES THAT SAME SYMBOL IS USED FOR PG&E. (30-E)

LINE CODING

COMMON (NOTE 7) TITLE

INSULATION SPECIFICATION (101905)
LINE SIZE (INCHES)
LINE NO. (OMITTED FOR <2-1/2" SHORT RUN)
PIPING SPECIFICATION (049021)
ALTERNATE
INSULATING FLANGE (SEE DWG. 065645)
MAIN FLOW LINES
SECONDARY FLOW LINES
INSTRUMENT LINES (PROCESS)
MAIN HEADER (AIR)
BELLOWS SENSOR FILLED SEALED SYSTEM (CAPILLARY)
INDICATES CHANGE OF LINE SPEC. SIZE OR NO. AND EQUIP. BOUNDARY
PIPE PENETRATION NO.
CHANGE OF PIPING SPEC.
SHIELD WALL PENETRATION
CHANGE OF PG&E CLASS
HEAT TRACING AND BOUNDARY

PG & E CODE CLASS	APPLICABLE CODES * *	DESIGN CLASS	SEISMIC CLASSIFICATION
A	DESIGN - B31.1, FABRICATION, ERECT, NDE - B31.7 CLASS I	I	I
B	DESIGN, FABRICATION, ERECTION, NDE - B31.7 CLASS II	I	I
C	DESIGN, FABRICATION, ERECTION, NDE - B31.7 CLASS III	I	I
D	DESIGN, FABRICATION, ERECTION NDE-B31.7 CLASS III FOR NEW WORK DESIGN, FABRICATION, ERECTION NDE, B31.1 FOR WORK PERFORMED PRIOR TO UPGRADE	I	I
E	DESIGN, FABRICATION, ERECTION NDE-B31.1	II	NON I
F	PIPING DESIGN, NDE; FABRICATION & ERECTION, ANSI B31.1 - 1967 WITH ADDENDA & SHALL BE SEISMICALLY QUALIFIED FOR DESIGN EARTHQUAKE (DE) CONDITION	II	NON I (DE)
G	NFPA AND ALSO COMPLIES WITH B31.1*	II	I
GI	NFPA STANDARDS * ³	II	NON I
H	PIPING DESIGN, NDE; FABRICATION & ERECTION, ANSI B31.1 - 1967 WITH ADDENDA	II	NON I
J	PIPE INSTALLATION - PG&E CODE CLASS E, NEW CONSTRUCTION - ANSI B31.7 CLASS II, WITH 1970 ADDENDA	I	I

* 10CFR50 APPENDIX B OR ALTERNATE QUALITY ASSURANCE PROGRAM APPLICABLE TO THESE CODE CLASSES.
* * REFER TO PG&E SPECIFICATION 8707 AND 8711 TO DETERMINE THE PIPING CODES AND STANDARDS APPLICABLE TO A PARTICULAR PG&E CODE CLASS, NOT LISTED ABOVE.

8. (---) SYMBOLS USED ON THIS SHEET EXTRACTED FROM DC-663200-10.
9. EQUIPMENT NUMBERING:
0-1 - FOR UNITS 1 & 2 (COMMON)
1-1 - FOR UNIT 1 ONLY
2-1 - FOR UNIT 2 ONLY

VENT, DRAIN, TELL TALE SYSTEM IDENTIFICATION

TEST VENT VENT (EQUIPMENT)
DRAIN FUNNEL DRAIN
TEST CONN. TELL TALE
REFERENCE BLOCK COMMON (NOTE 7)
PIPING OR INSTR. SCHEM. "FLAG"
DWG. NO. (LAST TWO DIGITS) NO. OMITTED FOR THE SAME DWG. COORDINATE (SIDE)
DWG. COORDINATE (TOP)
ALTERNATE

ABBREVIATION & DESCRIPTION
NFPA NATIONAL FIRE PROTECTION ASSOCIATION
RWST REFUELING WATER STORAGE TANK
SRST SPENT RESIN STORAGE TANK
PRT PRESSURIZER RELIEF TANK
ATM ATMOSPHERE
PW PRIMARY WATER
FAI FAIL AS IS
FC FAIL CLOSED
FO FAIL OPEN
SC SEALED CLOSED
SO SEALED OPEN
DH DRAIN HEADER
GA GAS ANALYZER
HT HOLD-UP TANK (LIQUID)
NO NORMALLY OPEN
NC NORMALLY CLOSED
ECC EMERGENCY COOLING CONNECTION
PP PUMP
VH VENT HEADER
DW DEMINERALIZED WATER
D LOCAL DRAIN
V VENT TO ATMOSPHERE
N₂ NITROGEN
H₂ HYDROGEN
T CONTAINMENT ISOLATION SIGNAL (PHASE A)
S SAFETY INJECTION SIGNAL
P CONTAINMENT SPRAY SIGNAL & CONTAINMENT ISOLATION SIGNAL (PHASE B)
RCDT REACTOR COOLANT DRAIN TANK
IMB INSIDE MISSILE BARRIER
OMB OUTSIDE MISSILE BARRIER
RR REACH ROD
PC INDICATE PG&E SCOPE WITH A (H) SYSTEM WALL MOUNTED
(H) WESTINGHOUSE ELECTRIC CO.
* SUPPLIED WITH ASSOCIATED EQUIPMENT.
M MAIN STEAM ISOLATION SIGNAL
DR DESIGN REQUIREMENT. SEE SYSTEM DCM (DESIGN CRITERIA MEMORANDUM) FOR DESIGN REQUIREMENTS/LIMITATIONS.

UNIT - 2
P.G.&E. CO. DRAWING NO. 108001 CHANGE 11
SHEET 3 OF 3 SHEETS