

FCV-131 / FCV-132

FLOW CONTROL VALVES, DUTY / STANDBY (2 x 100 %)
NPS 8 CLASS 600 RF GLOBE, 3-STAGE LOW-NOISE TRIM, PREDICTED
85.6 DBA AT 1 M
ACOUSTIC INSULATION OF BODY AND 10 FT DOWNSTREAM MANDATORY
NPS 12 BRANCHES, 12 x 8 REDUCERS AT THE VALVE FLANGES
ELECTRIC MODULATING, FAIL LAST (FL), HANDWHEEL

SDV-102

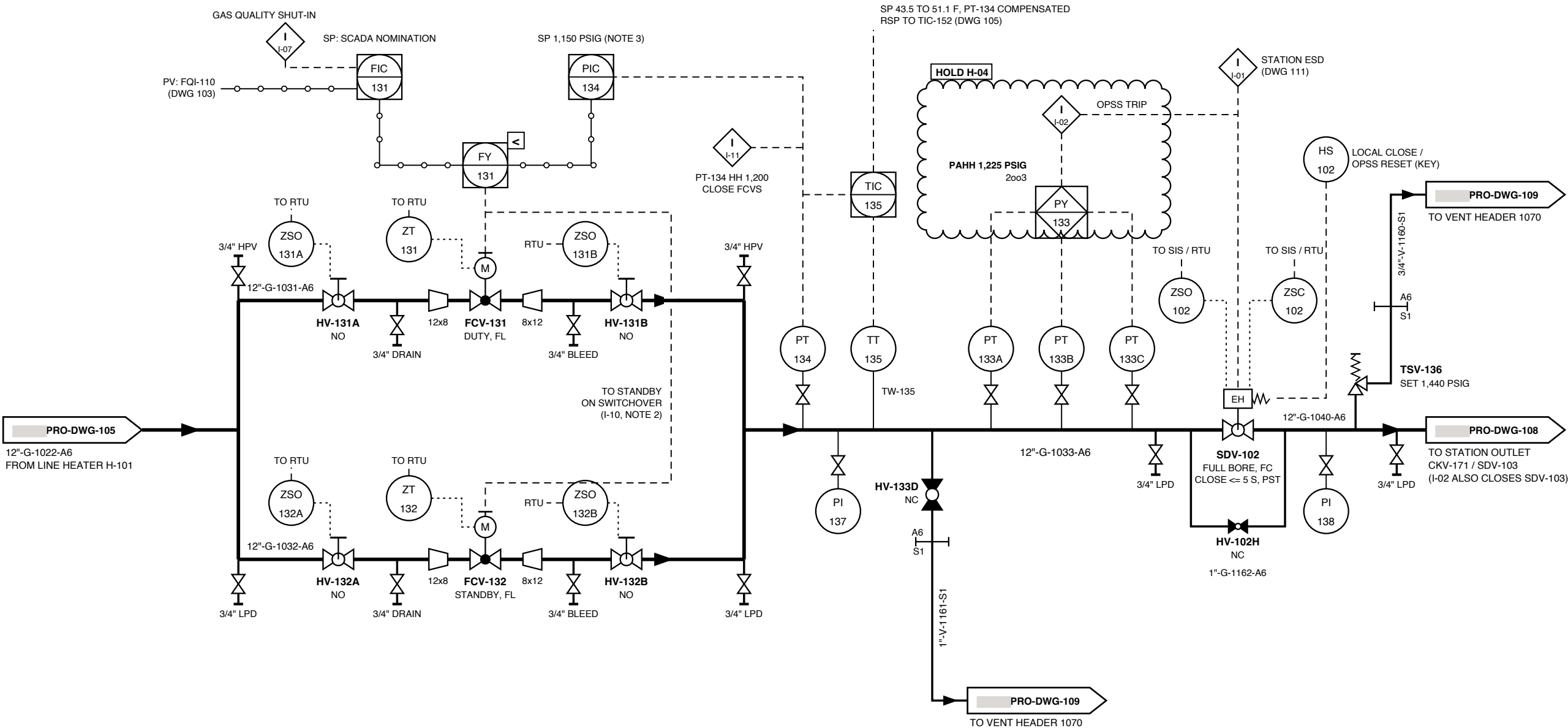
OPSS SHUTDOWN VALVE
NPS 12 CLASS 600 RF FULL-BORE BALL, API 6D
ELECTRO-HYDRAULIC SPRING-RETURN, FAIL CLOSED
FULL STROKE 4 S OR LESS
QUARTERLY PARTIAL-STROKE TEST

OPSS

OVERPRESSURE SHUTDOWN SYSTEM, SIF-01 SIL 2
PT-133A/B/C, 2003, SEPARATE SAFETY PLC INPUT CARDS
PAHH 1,225 PSIG: CLOSE SDV-102 AND SDV-103 (I-02)
192.201 LIMIT 1,290 PSIG (75 % SMYS)

NOTES

- ALL PIPING ON THIS SHEET IS CLASS 600 (A6),
MAOP 1,440 PSIG, EXCEPT VENT LINES DOWNSTREAM
OF THE SPEC BREAKS (S1 STAINLESS CLASS 150). LINE
1022 COINCIDENT DESIGN POINT 1,360 PSIG AT 200 F.
- ONE CONTROL VALVE IS DUTY AND ONE STANDBY,
SELECTED FROM SCADA. FY-131 OUTPUT DRIVES THE
DUTY VALVE; THE STANDBY VALVE IS HELD CLOSED.
I-10: AUTOMATIC SWITCHOVER ON DUTY-VALVE
POSITION DEVIATION (ZT-131 / ZT-132 VS DEMAND > 5
% FOR 30 S), PERMITTED ONLY WITH ZSO-131A/B OR
ZSO-132A/B MADE. FCVS FAIL AS-IS (FL).
- FIC-131 CONTROLS TO THE NOMINATED RATE. PIC-134
OVERRIDES BY LOW SELECT (FY-131) SO THE OUTLET
NEVER EXCEEDS 1,150 PSIG (ADJUSTABLE, NEVER
ABOVE 1,180 PSIG). I-11: PT-134 HIGH-HIGH 1,200 PSIG
CLOSES BOTH FCVS (BPCS, LATCHED).
- OPSS (I-02, SIF-01, SIL 2): PT-133A/B/C ON
SEPARATE SAFETY PLC INPUT CARDS VOTE 2003 AND
CLOSE SDV-102 (FULL STROKE 4 S OR LESS) AND
SDV-103 AT 1,225 PSIG. THE 49 CFR 192.201 LIMIT FOR
THE ASSUMED TRUNK IS 1,290 PSIG (75 % SMYS
GOVERNS OVER MAOP + 10 %). SDV-102 PARTIAL-STROKE
TESTED QUARTERLY. RESET LOCAL AT HS-102 (KEY).
HOLD H-04.
- SDV-102 ALSO CLOSES ON STATION ESD (I-01).
HV-102H (NPS 1 CLASS 800 FORGED (API 602)
SOCKET-WELD GLOBE, CV 1 NEEDLE TRIM, NC)
EQUALIZES ACROSS SDV-102 BEFORE REOPENING. I-07
GAS QUALITY SHUT-IN RAMPs FIC-131 TO ZERO BEFORE
SDV-103 CLOSES (DWG 108).
- TIC-135 (MASTER) SETS THE TIC-152 REMOTE
SETPOINT (DWG 105). ITS SETPOINT IS
PRESSURE-COMPENSATED FROM PT-134: THE LARGER OF
40 F, HYDRATE TEMPERATURE + 10 F AND HC DEWPOINT
+ 10 F, 43.5 F AT 750 PSIG TO 51.1 F AT 1,150 PSIG.
CHARACTERIZER POINTS PER PRO-CAL-003
TABLE 7.8A (700 TO 1,180 PSIG, 50 PSI STEPS).
- TSV-136 PROTECTS THE BLOCKED-IN SECTION
BETWEEN SDV-102 AND SDV-103 (SOLAR GAIN). SET AT
MAOP.
- LINE 1033 IS BLOWN DOWN THROUGH HV-133D
(MAINTENANCE) OR THROUGH BDV-182 WITH THE
CONTROL VALVE OPEN.



INTERLOCKS ON THIS SHEET (DETAIL IN INS-LST-004, LOGIC ON PRO-DWG-111):
I-01 STATION ESD: CLOSE SDV-102. I-02 OPSS 2003 PAHH 1,225 PSIG: CLOSE SDV-102 AND SDV-103.
I-07 GAS QUALITY SHUT-IN (BPCS): RAMP FIC-131 TO ZERO, THEN CLOSE SDV-103. I-10 FCV SWITCHOVER (BPCS).
I-11 PT-134 HIGH-HIGH 1,200 PSIG: CLOSE FCV-131 / FCV-132 (BPCS).

NOTES / REFERENCES

REF: PRO-DWG-100 SH 1-2 (LEGEND)
REF: INS-LST-004 (CAUSE AND EFFECT)
REF: GEN-DB-001 SECTIONS 7, 8, 9

REVISIONS

REV	DATE	DESCRIPTION	BY	CHK	APP
A	2026-09-29	ISSUED FOR REVIEW (IFR)			

PRELIMINARY - ISSUED FOR REVIEW - NOT FOR CONSTRUCTION

ENGINEER OF RECORD SEAL

NOT SEALED
PRELIMINARY

PE NO. _____

PROJECT

120 MMSCFD RECEIPT INTO _____
COUNTY, _____
DISCIPLINE: PROCESS
SCALE: NTS

P&ID CONTROL VALVES AND OPSS

FCV-131 / FCV-132, OPSS SDV-102
DRAWN: _____ CHECKED: _____ APPROVED: _____
DWG NO. PRO-DWG-107
SHEET 1 OF 1 REV A