

SAFETY INSTRUMENTED SYSTEM (SAFETY PLC CP-102B IN B-102)

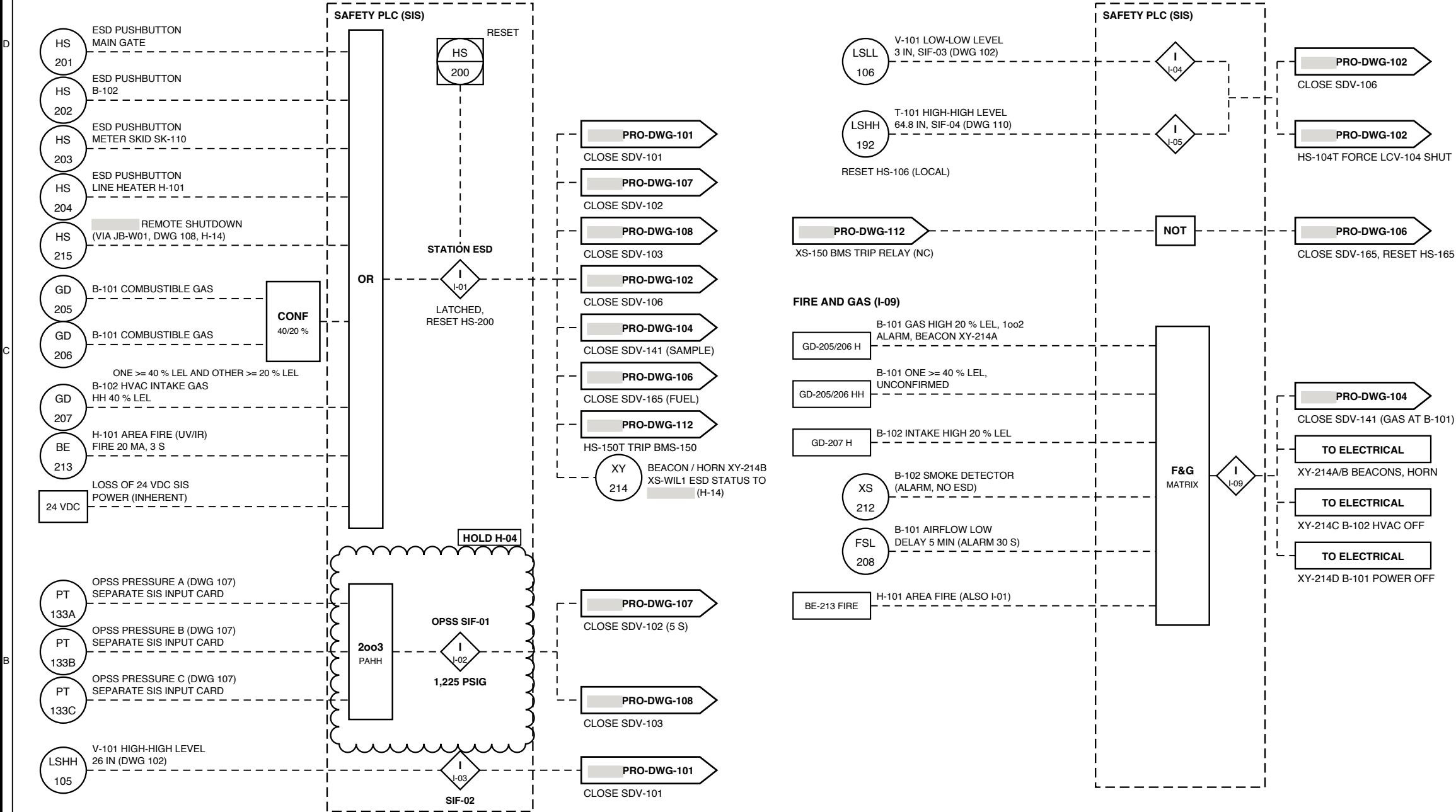
SIL-CAPABLE SAFETY PLC, INDEPENDENT OF THE RTU / BPCS. DE-ENERGIZE TO TRIP. OPSS SIF-01 IS SIL 2. INPUTS LEFT, LOGIC IN THE SIS BOXES, FINAL ELEMENTS RIGHT (OFF-PAGE TO THE PROCESS SHEETS).

SIS PROCESS TRIPS AND FIRE AND GAS (SAME SAFETY PLC)

BPCS INTERLOCKS AND STATION ALARMS ARE ON PRO-DWG-113. BMS-150 LOGIC (SIF-05 TO SIF-07) IS ON PRO-DWG-112.

NOTES

1. ALL SIS INPUTS AND OUTPUTS ARE DE-ENERGIZE TO TRIP. SDV SOLENOIDS FAIL CLOSED ON LOSS OF 24 VDC OR SIGNAL.
2. STATION ESD (I-01) IS LATCHED. RESET AT HS-200 AFTER THE CAUSE CLEARS, THEN REOPEN SDV-103, SDV-102, SDV-101, SDV-106, SDV-165, SDV-141 LOCALLY, EQUALIZING THROUGH HV-101H / HV-102H / HV-103H.
3. NO AUTOMATIC BLOWDOWN ON ESD (BASIS 9.3). MANUAL BLOWDOWN ONE SECTION AT A TIME (DWG 109).
4. OPSS SIF-01 IS SIL 2. TRIP 1,225 PSIG KEEPS THE TRUNKLINE BELOW THE 49 CFR 192.201 ACCUMULATION LIMIT OF 1,290 PSIG (75 % SMYS OF THE ASSUMED TRUNK; HOLD H-04). SDV-102 FULL STROKE 4 S OR LESS WITH QUARTERLY PARTIAL-STROKE TEST. I-02 ALSO CLOSSES SDV-103. RESET LOCAL HS-102, THEN HS-103.
5. PT-133A/B/C ARE ON SEPARATE SAFETY PLC INPUT CARDS; A FAULTED TRANSMITTER VOTES TRIP.
6. SIF-03 / SIF-04: SDV-106 IS THE CREDITED FINAL ELEMENT; LCV-104 IS ALSO FORCED CLOSED.
7. BYPASS OF ANY SIS INPUT REQUIRES A PERMIT, IS TIME-LIMITED AND ALARMS AT SCADA (INS SRS).
8. GAS DETECTOR AND FIRE SETPOINTS PER INS-LST-003.



SIS INTERLOCK SUMMARY (FULL SCHEDULE ON PRO-DWG-100 SHEET 2; DETAIL IN INS-LST-004)

ID	FUNCTION	INITIATING CAUSE	EFFECT
I-01	STATION ESD (SIS)	HS-201 TO HS-204, HS-215, GD-205/206 CONFIRMED, GD-207 HH, BE-213 FIRE, LOSS OF 24 VDC	CLOSE SDV-101/102/103/106/141 AND SDV-165; TRIP BMS-150. NO AUTO BLOWDOWN
I-02	OPSS SIF-01, SIL 2 (SIS)	PT-133A/B/C 2003 PAHH 1,225 PSIG	CLOSE SDV-102 (4 S) AND SDV-103
I-03	V-101 HH LEVEL SIF-02 (SIS)	LSHH-105 (26 IN)	CLOSE SDV-101
I-04	V-101 LL LEVEL SIF-03 (SIS)	LSLL-106 (3 IN)	CLOSE SDV-106, FORCE LCV-104 CLOSED
I-05	T-101 HH LEVEL SIF-04 (SIS)	LSHH-192 (64.8 IN)	CLOSE SDV-106, FORCE LCV-104 CLOSED
I-09	FIRE AND GAS (SIS)	GD-205/206/207, BE-213, XS-212, FSL-208	SDV-141, BEACONS XY-214, B-102 HVAC OFF, B-101 POWER OFF

NOTES / REFERENCES

REF: PRO-DWG-100 SH 2 (INSTRUMENT LEGEND)

REF: INS-LST-004 (CAUSE AND EFFECT MATRIX)

REF: INS-LST-003 (SETPOINTS)

REF: PRO-DWG-113 (BPCS INTERLOCKS)

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 STATION ESD AND SAFETY

SIS: ESD, OPSS, PROCESS TRIPS, FIRE AND GAS

DRAWN: _____ CHECKED: _____ APPROVED: _____

DWG NO.
PRO-DWG-111

SHEET 1 OF 1 REV A