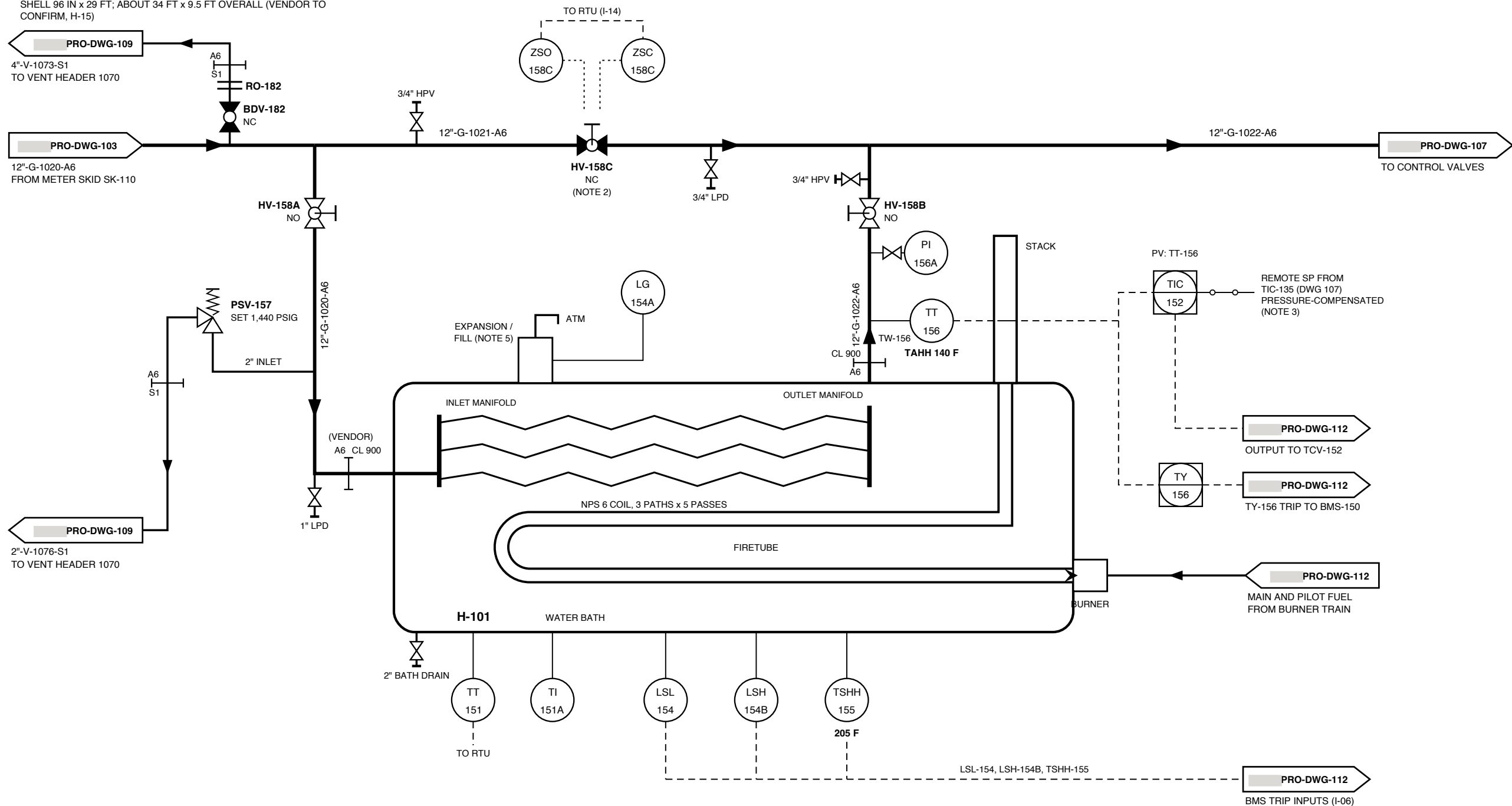


INDIRECT-FIRED WATER-BATH LINE HEATER (API 12K)
FIREBOX: 6.0 MMBTU/H, NATURAL DRAFT, BURNER AT EAST END
COIL: NPS 6 SCH 80, 3 PARALLEL PATHS x 5 PASSES, INLET / OUTLET
MANIFOLDS
COIL DESIGN 1,440 PSIG @ 250 F; COIL NOZZLES AND COMPANION
FLANGES CL 900
SHELL 96 IN x 29 FT; ABOUT 34 FT x 9.5 FT OVERALL (VENDOR TO
CONFIRM, H-15)

HEATER COIL RELIEF VALVE
THERMAL / FIRE CASE, SET 1,440 PSIG
PER [REDACTED] PRO-DS-005
DISCHARGE 2"-V-1076-S1 TO VS-101

BURNER AND BURNER MANAGEMENT
FUEL TRAIN, FLAME DETECTION AND BMS-150 (SIL 2)
ARE SHOWN ON PRO-DWG-112

1. LINES 1020, 1021, 1022 AND THE COIL INLET / OUTLET PIPING ARE CLASS 600 (A6), MAOP 1,440 PSIG. COIL NOZZLES AND COMPANION FLANGES ARE CLASS 900 (SPEC BREAKS SHOWN). LINE 1022 ALSO HAS A COINCIDENT DESIGN POINT OF 1,360 PSIG AT 200 F.
2. SUMMER (HEATER OFF): HV-158C OPEN, HV-158A / HV-158B CLOSED. WINTER (HEATER IN SERVICE, CASES C1, C5, C7): HV-158A / HV-158B OPEN, HV-158C CLOSED. POSITIONS SHOWN ARE THE WINTER LINE-UP. ZSO / ZSC-158C CONFIRM THE MODE (I-14). NEVER CLOSE HV-158A AND HV-158B WITH THE BURNER FIRING; PSV-157 PROTECTS THE BLOCKED-IN COIL.
3. TIC-135 (DWG 107) SETS THE TIC-152 SETPOINT. THE CONTROL VALVE OUTLET TARGET IS PRESSURE-COMPENSATED: THE LARGER OF 40 F, HYDRATE TEMPERATURE + 10 F AND HC DEWPOINT + 10 F, 43.5 F AT 750 PSIG RISING TO 51.1 F AT 1,150 PSIG . TIC-152 TRIMS TCV-152 (DWG 112).
4. TT-156 HIGH-HIGH 140 F, LSL-154, LSH-154B (COIL LEAK) AND TSHH-155 (205 F) TRIP THE BURNER THROUGH BMS-150 (I-06, DWG 112). LSL-154 / LSH-154B SETPOINTS BY HEATER VENDOR (HOLD H-15).
5. BATH EXPANSION / FILL STANDPIPE VENTED TO ATMOSPHERE WITH GOOSENECK AND SCREEN. BATH FLUID PER VENDOR.
6. BDV-182 BLOWS DOWN THE METER AND HEATER SECTION (MOV-112 / MOV-122 TO THE CONTROL VALVES). MANUAL, AFTER ESD ONLY, ONE SECTION AT A TIME. SPEC BREAK A6 / S1 AT RO-182 AND AT THE PSV-157 OUTLET.



INTERLOCKS ON THIS SHEET (DETAIL IN INS-LST-004, LOGIC ON PRO-DWG-112 AND -113):
I-06 H-101 BURNER TRIP INPUTS (TT-156 HH, LSL-154, LSH-154B, TSHH-155). I-14 HEATER MODE (ZSO / ZSC-158C).

REF:	PRO-DWG-100 SH 1-2 (LEGEND)	
REF:	PRO-DWG-112 (BURNER AND BMS)	
REF:	INS-LST-004 (CAUSE AND EFFECT)	
REF:		
REF:	PRO-DS-009 (H-101),	PRO-CAL-004

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

PRELIMINARY - ISSUED FOR REVIEW - NOT FOR CONSTRUCTION

NOT SEALED
PRELIMINARY

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

INDIRECT WATER-BATH HEATER, PROCESS SIDE

DRAWN: _____ CHECKED: _____ APPROVED: _____

DWG NO.

PRO-DWG-105

SHEET 1 OF 1 REV A