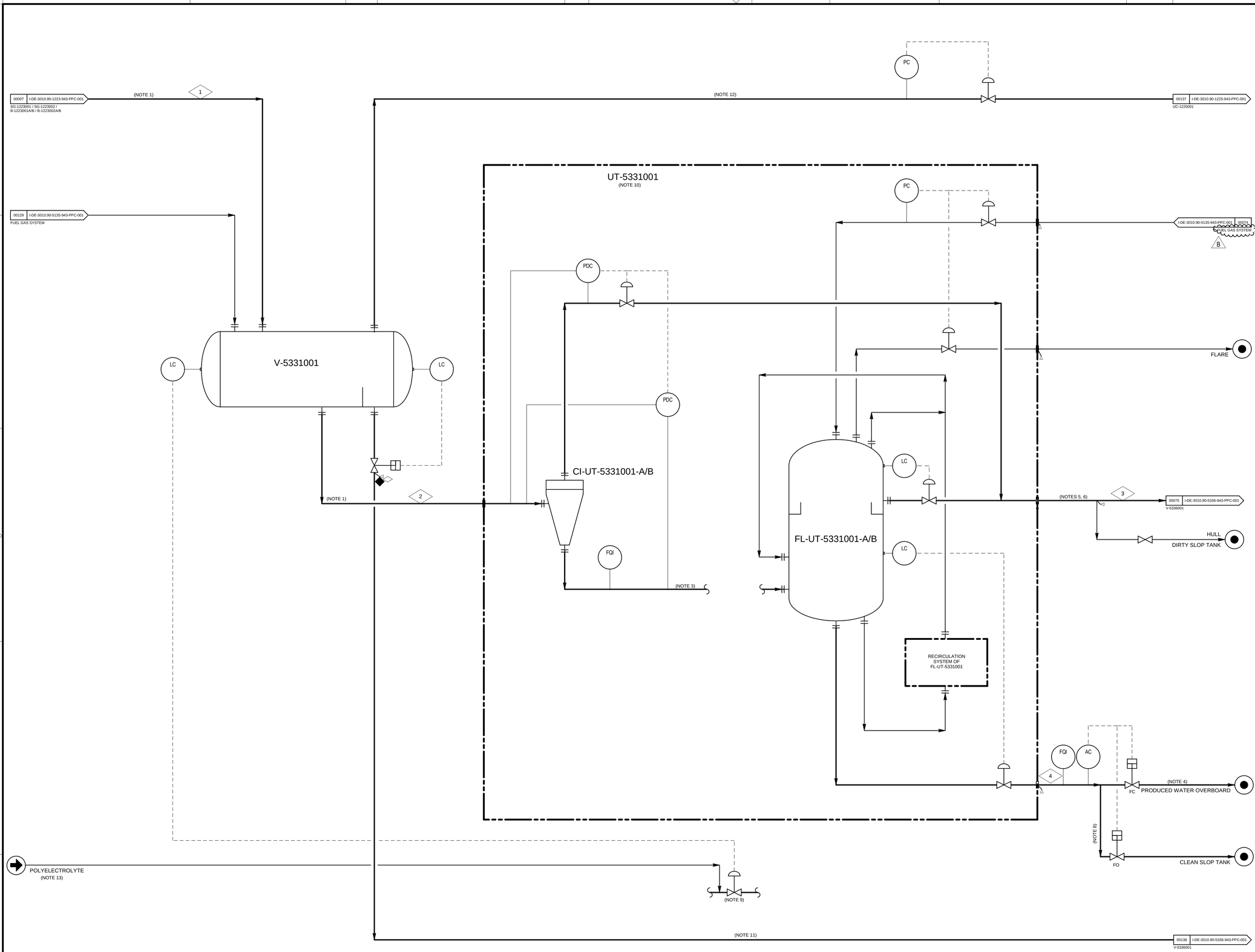

STREAM N.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PRESSURE (kPa abs)	686.5	686.5	250.0	200.0																										
TEMPERATURE (ºC)	40	40	40	40																										
OIL VOLUMETRIC FLOW RATE (m³/h)	0.9	0.9	0.9	0.0																										
WATER VOLUMETRIC FLOW RATE (m³/h)	876.3	876.3	84.7	791.6																										
OIL DENSITY (kg/m³)	814.7	814.7	814.7	814.7																										
WATER DENSITY (kg/m³)	1188.0	1188.0	1188.0	1188.0																										
OIL VISCOSITY (cP)	0.5	0.5	0.5	0.5																										
WATER VISCOSITY (cP)	0.5	0.5	0.5	0.5																										
NOTES:				(NOTE 14)																										

REFERENCE DOCUMENTS

I-ET-3000.00-1200-941-PPC-002 - SYMBOLS AND ABBREVIATIONS

EQUIPMENT

TAG	DESCRIPTION	TYPE	CAPACITY
CI-UT-5331001-A/B (2 x 50%)	PRODUCED WATER SYSTEM HYDROCYCLONE	-	9500 m³/d
FL-UT-5331001-A/B (2 x 50%)	PRODUCED WATER FLOTATION UNIT	VERTICAL	9500 m³/d
UT-5331001 (1 x 100%)	PRODUCED WATER SYSTEM	-	19000 m³/d
V-5331001 (1 x 100%)	PRODUCED WATER FLASH DRUM	HORIZONTAL	19000 m³/d

GENERAL NOTES

1 - PRODUCED WATER WITH 1000ppm VOLUME OF OIL, AT MAXIMUM.

2 - PERFORMANCE CHARACTERISTICS OF EQUIPMENT AND SYSTEMS ARE DESIGN DATA AND MAY NOT AGREE WITH THE MASS BALANCE.

3 - PRODUCED WATER WITH 100ppm TO 200ppm VOLUME OF OIL (EXPECTED).

4 - PRODUCED WATER WITH 29ppm VOLUME OF OIL, AT MAXIMUM.

5 - OILY REJECT.

6 - FLOW BY GRAVITY. DETAILING DESIGN SHALL CONFIRM/ REVISE THE MINIMUM PIPING SLOPE OF 1%, IN ORDER TO GUARANTEE COMPLETE FLOW FOR V-5336001.

7 - THE PRODUCED WATER MASS FLOW BALANCE WAS BASED ON A FLOW OF 19000 m³/d, WHICH CONTENTS OF OIL IN THE WATER IS, BEFORE HYDROCYCLONES, 1000ppm IN VOLUME.

8 - OFF-SPEC PRODUCED WATER (>29ppm VOLUME) TO BE ROUTED TO CLEAN SLOP TANK.

9 - THE PRODUCED WATER SYSTEM MANUFACTURER SHALL PROVIDE A SPOOL LOCATED ON PRODUCED WATER HEADER BETWEEN HYDROCYCLONE BATTERIES AND FLOTATION UNITS TO BE REPLACED BY A LEVEL CONTROL VALVE (LV), ACTUATED BY PRODUCED WATER FLASH DRUM LEVEL CONTROLLER SUPPLIED BY OTHERS.

10 - THE PRODUCED WATER SYSTEM SHALL BE COMPOSED BY HYDROCYCLONE BATTERIES (CI-UT-5331001) AND FLOTATION UNITS (FL-UT-5331001). THE CONTRACTOR SHALL ADVISE THE MOST ECONOMICAL CONFIGURATION FOR EACH: 2x50% (AT LEAST); 3x33% OR 4x25%, NOT EXCEEDING THE AREA PREVIOUS IN ARRANGEMENT.
THE PROPOSED CONFIGURATION SHALL BE PREVIOUSLY SUBMITTED TO PETROBRAS FOR APPROVAL.

11 - OIL VOLUMETRIC FLOW RATE NOT CONSIDERED IN THE MASS BALANCE (DISCONTINUOUS FLOW).

12 - GAS FLOW RATE NOT CONSIDERED IN THE MASS BALANCE (DISCONTINUOUS FLOW).

13 - CHEMICAL INJECTION POINT TO BE LOCATED BETWEEN HYDROCYCLONE BATTERIES AND FLOTATION UNIT, AS CLOSE AS POSSIBLE TO THE FLOTATION UNIT. MANUFACTURER SHALL PROVIDE A SPOOL.

14 - OIL VOLUMETRIC FLOW RATE:
0.023 m³/h

REV.	DESCRIPTION	DATE	EXEC.	CHECK	APPROV.

FILE: SmartPlant P&ID / V 4.03 / I-DE-3010.90-5331-943-PPC-001.pid

CLIENT:

JOB:
PRESALT FPSOS - STANDARD MODULES

AREA:
PRODUCTION

TITLE:
UTILITY FLOW DIAGRAM
PRODUCED WATER SYSTEM

DESIGN	EXEC.	CHECK	APPROV.
SCALE NO SCALE	A1: 841x594mm	IN-2000-08-001	SHEET 01 of 01
DATE	No.		
	I-DE-3010.90-5331-943-PPC-001		