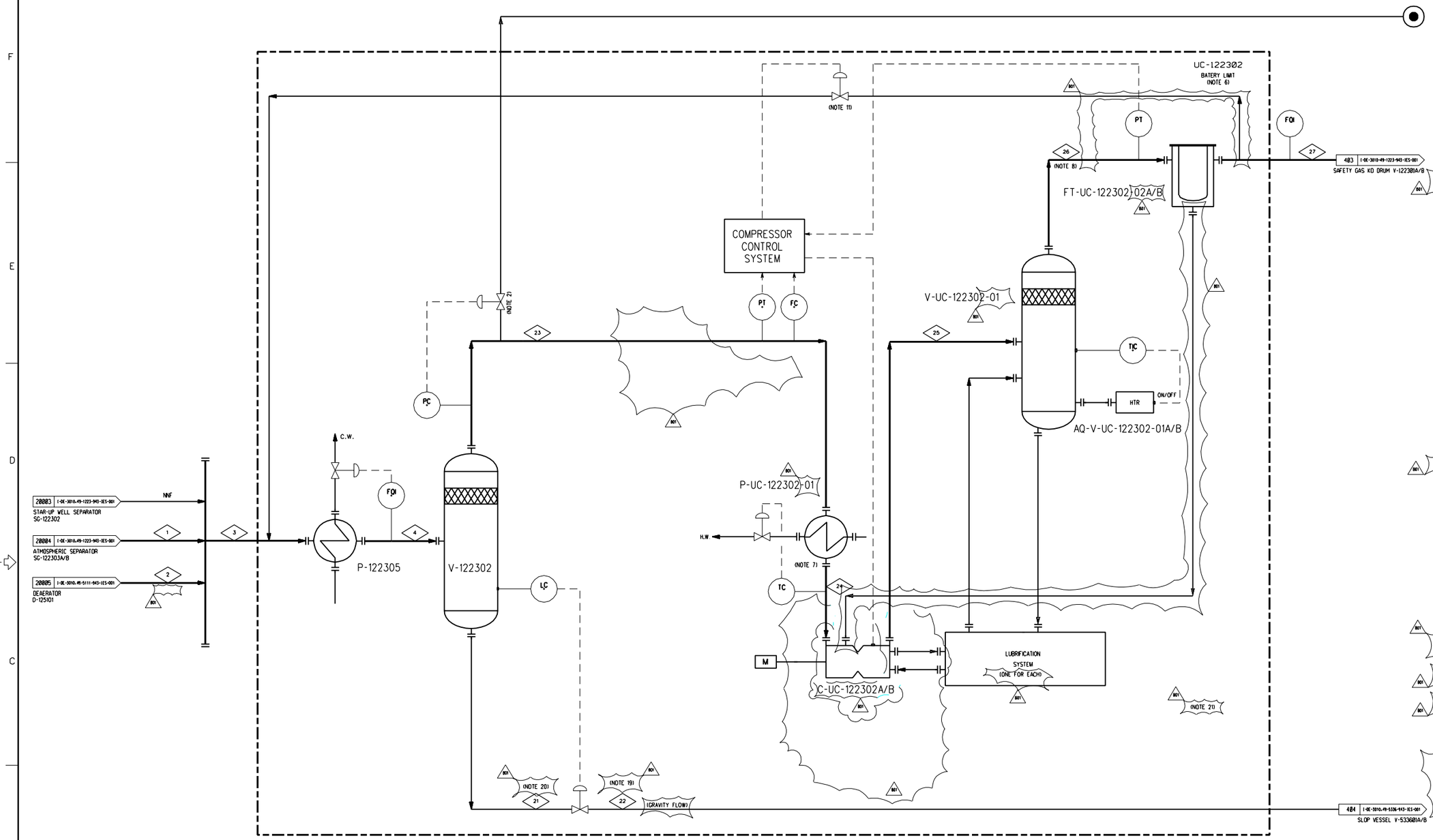

REFERENCE DOCUMENTS

ET-3000.00-1200-941-IES-002 SYMBOLS AND ABBREVIATIONS
I-DE-3010.49-1223-943-IES-003

EQUIPMENTS

TAG	DESCRIPTION	TYPE	CAPACITY (NOTE 1)
P-122305 (1x100%)	GAS BOOSTER SUCTION COOLER	SHELL AND TUBE	1.20×10^6 W
V-122302 (1x100%)	GAS BOOSTER SUCTION K.O. DRUM	VERTICAL	260000 m^3/d
C-UC-122302A/B (1x100%)	GAS BOOSTER UNIT COMPRESSOR	SCREW	260000 m^3/d
V-UC-122302-01A/B (1x100%)	GAS BOOSTER COMPRESSION K.O. DRUM	VERTICAL	260000 m^3/d
UC-122302 (1x100%)	GAS BOOSTER COMPRESSION UNIT	-	260000 m^3/d
P-UC-122302-01 (1x100%)	GAS BOOSTER COMPRESSION HEATER	SHELL AND TUBE	0.13×10^6 W (NOTE 5)
FT-UC-122302-02A/B	DISCHARGE GAS BOOSTER FILTER	CARTRIDGE	260000 m^3/d
AQ-V-UC-122302-01A/B	GAS BOOSTER PRIM. SEPARATOR HEATER	-	260000 m^3/d

GENERAL NOTES

1- GAS FLOWRATE AND GAS CAPACITY AT 20°C AND 101.3 kPa abs.

2- IN CASE OF COMPRESSOR FAILLURE PRESSURE ON KO DRUM WILL INCREASE TO 130KPA-a IN NORMAL OPERATION AND TO 150KPA-a AT DESIGN CAPACITY.

3- OIL AND WATER VOLUMETRIC FLOWRATES ARE STANDARD VALUES AT 15.6°C AND 101.3 kPa abs.

4- CHARACTERISTICS OF C12+ FRACTION:
ENCHOVA: PM=560, API=23.69
MARLIM: PM=550, API=18.80

5- TO BE DEFINED DURING DETAILED DESIGN.

6- THE MASS AND ENERGY BALANCE INSIDE OF THE COMPRESSION UNIT PACKAGE IS VENDOR RESPONSIBILITY AND SHALL BE REVISED DURING DETAILED DESIGN.

7- GAS BOOSTER COMPRESSOR PRE-HEATER TO GUARANTEE A MINIMUM COMPRESSOR INLET GAS TEMPERATURE OF 20°C ABOVE DEW POINT, IN ORDER TO AVOID SYNTHETIC OIL CONTAMINATION BY GAS CONDENSATE.

8- THE STREAM CHARACTERISTICS PRESENTED IN THIS FLOW DIAGRAM REPRESENTS THE MAXIMUM DISCHARGE PRESSURE CASE OF 1079 kPa abs AT PACKAGE OUTLET.

9- VOID.

10- VOID.

11- RECIRCULATION SHALL BE ANALYZED BY DETAILING DESIGN, TO PERFORM CONTROL WHEN GAS FLOW IS BELOW 10% COMPRESSOR CAPACITY.

12- THIS TEMPERATURE WAS ESTIMATED AS 100°C. IT SHALL BE CONFIRMED DURING DETAILED DESIGN.

13- BOOSTER COMPRESSOR PACKAGE MAXIMUM DISCHARGE PRESSURE IS 1079 kPa abs, HOWEVER, GAS COMPRESSOR DESIGN MINIMUM SUCTION PRESSURE CASE IS BASED ON 951 kPa abs.

14- ACTUAL DENSITY.

15- GAS RATE FROM DEAERATOR ASSUMED AT MAX DESIGN RATE.

16- DESIGN CAPACITY BASED ON ONE OIL COOLER (P-122306A/B) FAILLURE.

17- VOID.

18- FINAL VALVES AFTER RECEIPT VENDOR'S DATA.

19- THERE IS A POSITIVE DIFFERENCE OF 2 METRES IN THE HEIGHT OF THE VESSELS V-122302 AND V-533601 A/B.

20- LABEL 21 PRESSURE REFERS TO V-122302 VAPOR SPACE. FOR CONTROL VALVE INLET PRESSURE, THE STATIC LIQUID HEIGHT MUST BE CONSIDERED.

21- INFORMATION REGARDING FINAL DESIGN MUST BE OBTAINED FROM VENDOR DRAWING: HOWDEN SCW3826/PFD.

STREAM CHARACTERISTICS		17	18	19	20	1	22	23	24	25	26	27
WATER	H2O	11.22	5.25	10.00	10.00	100.00	100.00	6.88	6.88	6.88	6.88	6.88
NITROGEN	N2	0.12	0.88	0.28	0.28	0.00	0.00	0.29	0.29	0.29	0.29	0.29
CARBON DIOXIDE	CO2	0.19	0.27	0.20	0.20	0.00	0.00	0.21	0.21	0.21	0.21	0.21
METHANE	C1	28.35	12.84	37.48	37.48	0.00	0.00	38.77	38.77	38.77	38.78	38.78
ETHANE	C2	13.07	10.24	12.49	12.49	0.00	0.00	12.92	12.92	12.92	12.92	12.92
PROPANE	C3	21.57	7.63	18.71	18.71	0.00	0.00	19.35	19.35	19.35	19.35	19.35
I-BUTANE	IC4	4.36	0.86	3.64	3.64	0.00	0.00	3.77	3.77	3.77	3.77	3.77
N-BUTANE	NC4	10.03	1.59	8.30	8.30	0.00	0.00	8.59	8.59	8.59	8.58	8.58
I-PENTANE	IC5	2.70	0.20	2.18	2.18	0.00	0.00	2.26	2.26	2.26	2.26	2.26
N-PENTANE	NC5	3.54	0.22	2.86	2.86	0.00	0.00	2.96	2.96	2.96	2.96	2.96
HEXANE	NC6	2.51	0.02	2.00	2.00	0.00	0.00	2.07	2.07	2.07	2.06	2.06
HEPTANE	NC7	1.46	0.00	1.16	0.48	0.00	0.00	1.20	1.20	1.20	1.20	1.20
OCTANE	NC8	0.61	0.00	0.48	0.15	0.00	0.00	0.50	0.50	0.50	0.50	0.50
NONANE	NC9	0.19	0.00	0.15	0.05	0.00	0.00	0.16	0.16	0.16	0.16	0.16
DECANE	NC10	0.06	0.00	0.05	0.02	0.00	0.00	0.05	0.05	0.05	0.05	0.05
UNDECANE	NC11	0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02
C12+ (NOTE 4) RSJ-458 ENCHOVA	C12+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C12+ (NOTE 4) RSJ-383 MARLIM	C12+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
MOLAR FLOW RATE	(KGMOL/H)	305.0	83.7	388.7	388.7	12.8	12.8	375.9	375.9	375.9	375.8	375.8
MASS FLOWRATE	(KG/H)	11493	1850	13343	13343	231	231	13112	13112	13112	13104	13104
OIL VOLUMETRIC FLOW RATE (NOTE 3)	(M3/H)	-	-	-	-	-	-	-	-	-	-	-
GAS VOLUMETRIC FLOWRATE (NOTE 1)	(M3/H)	7337	2012	9349	9023	-	-	9032	9032	9032	9029	9029
WATER VOLUMETRIC FLOWRATE (NOTE 3)	(M3/H)	-	-	-	0.24	0.23	0.23	-	-	-	-	-
MOLECULAR WEIGHT	(KG/KMOL)	37.68	21.18	34.30	34.30	18.01	18.01	34.88	34.88	34.88	34.87	34.87
PRESSURE	(KPA ABS)	118	118	115	105	95	111	95	65	1089	1079	951
TEMPERATURE	(°C)	53	38	51	40	39	39	39	60	100	100	99
OIL DENSITY (NOTE 14)	(KG/M3)	-	-	-	-	-	-	-	-	-	-	-

Rev	Date	Description	BY	CHK	LEAD	MGNT	KBR	OWNER
B01	11-JUN-01	RELEASED FOR DESIGN-ADP-0327/01	MSM	GGR	RSS	RAC	RJ	
A01	11-APRIL-01	FOR COMMENTS	GRR	RSS	RSS	RAC		
001	23-MAR-01	INTERNAL DISCIPLINE CHECK (IDC)	GRR	RSS	RSS	RAC		
								Released

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PETRÓLEO BRASILEIRO S.A. PETROBRAS
Barracuda & Caratinga Leasing Corporation
Brown & Root Energy Services
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USER
E & P BACIA DE CAMPOS

PROJECT TITLE
PRODUCTION FACILITIES PROJECT
BARRACUDA AND CARATINGA CRUDE OIL FIELDS

UNIT
FPSO UNIT - P-43

DRAWING TITLE
FIGURA 3.2.3-f
PROCESS FLOW DIAGRAM
BOOSTER GAS COMPRESSION
(MAXIMUM OIL/TOTAL LIQUID (YEAR 2005)

CS APPROVAL	OWNER APPROVAL	COPY CODE	LIFE CYCLE	DATE
		BB		23-MAR-01

DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
GCR	GRR	GRR	RSS

PROJ. NUMBER: I-DE-FBT-1223-PR-P.10-003
SCALE: -
REV.: B01
BR NUMBER: I-DE-3010.49-1223-943-IES-003
SHEET: 01 / 02

DD-P-43-P.10-004