
 <b>PETROBRAS</b>	<b>LIST</b>		Nº: I-LI-3D10.12-5139-800-PEK-002						
	CLIENT:		SANTOS BASIN PRE-SALT					SHEET: 1 OF 3	
	PROGRAM:		LIST OF CONSUMERS FOR SUBSEA HPU						
	AREA:		UN-BS						
<b>DENGE/SUB/ ES/EESUB/ EMES</b>	TITLE:		LIST OF CONSUMERS FOR SUBSEA HPU OF THE BUZIOS 12 PROJECT					<b>PUBLIC</b>	
<b>REVISION INDEX</b>									
<b>REV.</b>	<b>DESCRIPTION AND/OR SHEETS REACHED</b>								
0	Original.  <b><u>PREMISES FOR USING (PETROBRAS USERS)</u></b>  This list of consumers for subsea Hydraulic Power Unit (HPU) must be used together with I-ET-3000.00-5139-800-PEK-004.								
	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E	REV. F	REV. G	REV. H
DATE	26/12/2024								
PROJECT									
EXECUTION	A. Rabello								
VERIFICATION	D. Natal								
APPROVAL	R. Miranda								
INFORMATION IN THIS DOCUMENT IS PROPERTY OF PETROBRAS, BEING PROHIBITED OUTSIDE OF THEIR PURPOSE									
FORM OWNED TO PETROBRAS N-381 REV. L									


	<b>LIST</b>	Nº I-LI-3D10.12-5139-800-PEK-002	REV. 0
	UO-BS		SHEET 2 of 3
	TITLE: LIST OF CONSUMERS FOR SUBSEA HPU OF THE BUZIOS 12 PROJECT		<b>PUBLIC</b>

### LIST OF HPU CONSUMERS – BUZIOS 12

WELLS AND SUBSEA EQUIPMENT:	TOTAL	
A. Satellite production well with WCT-MUX (see criterion n. 1 for definition and quantity)	<b>Ta</b>	<b>0</b>
B. Satellite water injection well with WCT-MUX (see criterion n. 2 for definition and quantity)	<b>Tb</b>	<b>0</b>
C. Satellite gas injection well with WCT-MUX (see criterion n. 3 for definition and quantity)	<b>Tc</b>	<b>0</b>
D. Satellite production well with WCT-MUX that can be relocated to the MSP, giving the its umbilical slot in the FPU to connect a manifold	<b>Td</b>	<b>0</b>
E. Satellite water injection well with WCT-MUX can be relocated to the MSIAG/MSIA giving its umbilical slot in the FPU to connect a manifold	<b>Te</b>	<b>0</b>
F. Satellite gas injection well with WCT-MUX that can be relocated to the MSIAG giving its umbilical slot in the FPU to connect a manifold	<b>Tf</b>	<b>0</b>
G. MSIAG for two (2) WAG injection wells with WCT-MUX (criterion n. 4)	<b>Tg</b>	<b>0</b>
H. Pair of MSIAG in piggyback for up to four (4) WAG wells with WCT-MUX (criterion n. 5)	<b>Th</b>	<b>0</b>
I. SWIM for four (4) water injection wells with WCT-MUX (criterion n. 4)	<b>Ti</b>	<b>0</b>
J. MSP or MSPG for four (4) production wells with WCT-MUX (criterion n. 4)	<b>Tj</b>	<b>0</b>
K. Pair of piggyback wells (WCT-MUX) connected directly to the FPU (criterion n. 6)	<b>Tk</b>	<b>0</b>
L. Satellite well (whatever the well) with WCT-HD (see criterion n. 7 for definition and quantity)	<b>Tl</b>	<b>0</b>
M. SDU for up to 5 wells with WCT-MUX (criterion n. 8)	<b>Tm</b>	<b>8</b>
N. SESDV (Subsea Emergency Shutdown Valves) (see criterion n. 9 for definition and quantity)	<b>Tn</b>	<b>3</b>
O. SDU for up to 4 wells + MSGSL (Subsea Gas-Lift Manifold)	<b>To</b>	<b>0</b>
P. SDU for up to 5 wells + two PLEM-CHK-PO/IA/PG (Pipe Line End Manifold with Choke Valve) (see criterion n. 11 for definition and quantity)	<b>Tp</b>	<b>0</b>
Q. SDU + PLEM-HMXO (Pipe Line End Manifold with Hydrate Mitigator Crossover) (see criterion n. 10 for definition and quantity)	<b>Tq</b>	<b>0</b>
R. SDU cascaded with SDU for up to 5 wells with WCT-MUX (criterion n. 12)	<b>Tr</b>	<b>0</b>

#### Abbreviations:

- **WCT-MUX:** Wet Christmas tree with multiplexed electrohydraulic control system
- **WCT-HD:** Wet Christmas tree to direct hydraulic control
- **MSIAG:** Subsea manifold for water and gas injection
- **MSIA:** Subsea water injection manifold

	<b>LIST</b>	Nº I-LI-3D10.12-5139-800-PEK-002	REV. 0
	UO-BS	SHEET 3 of 3	
	TITLE: LIST OF CONSUMERS FOR SUBSEA HPU OF THE BUZIOS 12 PROJECT	<b>PUBLIC</b>	

➤ **MSP:** Subsea production manifold

➤ **MSPG:** Subsea production Gas Manifold

➤ **MSGL:** Subsea Gas Lift Manifold

➤ **PLEM-CHK:** Pipe Line End Manifold for two wells equipped with choke valve.

➤ **SDU:** Subsea electro-hydraulic distribution unit

➤ **WAG:** Water alternating gas

Criteria for the information of the quantities of equipment by CHARTERING :

- 1) The satellite well is the one whose WCT control umbilical is directly connected to the FPU. The total must be the sum of all satellite production wells equipped with WCT-MUX;
- 2) The satellite well is one whose WCT control umbilical is directly connected to the FPU. The total must be the sum of all water injection wells equipped with WCT-MUX, EXCLUDING those that may be relocated to manifolds later on;
- 3) The satellite well is the one whose WCT control umbilical is directly connected in the FPU. The total must be the sum of all satellite gas injection wells equipped with WCT-MUX, EXCLUDING those that may be relocated to manifolds later on;
- 4) Sum of all manifolds of the type provided for direct connection to the FPU;
- 5) Sum of MSIAG PAIRS in piggyback. Each MSIAG will be connected to the FPU by an independent umbilical;
- 6) Sum of the PAIRS of piggyback wells connected to the FPU by the umbilical of the respective Master WCT-MUX;
- 7) A maximum of two (2) FPU satellite wells equipped with WCT-HD;
- 8) Sum of all SDU, collecting only WTC-MUX, which are directly connected to the FPU;
- 9) A maximum of four (4) SEDSV provided for direct connection to the FPU.
- 10) A maximum of three (3) PLEM-HMXO or SEDSV provided for direct connection to the FPU.
- 11) Sum of all SDU, collecting WTC-MUX and PLEM-CHK, which are directly connected to the FPU;
- 12) Sum of all system, collecting only WTC-MUX, which are directly connected to the FPU;