



COMPANY LOGO

OPERATIONAL MUTUAL PROCEDURE

1. OBJECTIVE

Establish integrated procedures between the DISTRIBUTOR; the TRANSPORTER and the OPERATOR, for the operation of the interconnection facilities of the TRANSPORTER gas pipeline with the DISTRIBUTOR network, in order to comply with the operationally safe GAS flow schedule and to preserve the quality of the product being dismantled and the environment.

This document is an integral part of the Responsibility Protocol. - PR, celebrated between DISTRIBUTOR; the TRANSPORTER and the OPERATOR.

2. APPLICATION AND SCOPE

[**Company Name**], Piped local GAS DISTRIBUTOR, interconnected with the TRANSPORTER pipeline;

NOVA TRANSPORTADORA DO SUDESTE S/A - NTS, TRANSPORTER and owner of the transport pipeline and its FACILITIES;

PETROBRAS TRANSPORTE S.A. - TRANSPETRO, GASODUTE OPERATOR;

3. REFERENCE AND SUPPLEMENTARY DOCUMENTS

- PETROBRAS: N-2246 - Operação de Gasoduto Terrestre e Submarino (TRANSPETRO);
- Regulamento Técnico de Duto de Terrestres para Movimentação de Petróleo, Derivados e Gás Natural - RTDT nº 02/2011;
- PR - Protocolo de Responsabilidades nas interfaces dutoviárias entre o TRANSPORTADOR; o OPERADOR; e a DISTRIBUIDORA.

4. DEFINITIONS

WARNING READY TO OPERATE: Communication mechanism that authorizes the beginning or restart of gas movement between the PARTIES, after the alignment and conditioning of the INSTALLATIONS.

NATIONAL LOGISTIC CONTROL CENTER (CNCL): It is TRANSPETRO's National Logistic Control Center, located at the company's headquarters on Av. PRESIDENTE VARGAS, RIO DE JANEIRO, CENTRO.

RJ, ZIP Code: 20.091-060, where all operations of the pipelines operated by TRANSPETRO are performed. The pipeline supervision is done through the "SCADA" system, with teams of Operators (technicians and engineers) 24 hours a day and professionals on notice in the Network. The Back up Station is located at the Terminal of Campos Elíseos (TECAM) of TRANSPETRO, in the city of Duque de Caxias, State of Rio de Janeiro.

[**DISTRIBUTOR control centre name**]: It is the operational control centre of the network.



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DISTRIBUTOR, located at the [**DISTRIBUTOR control centre address**].

RESPONSIBILITIES PROTOCOL: Document signed between the PARTIES and the INTERVENIENT, whose purpose is to define the responsibilities of the parties with respect to the operation, maintenance and preservation of the integrity of the INSTALLATIONS of each party, as well as the mutual operating procedures of interconnections between these INSTALLATIONS, aiming at coordination and optimization of operational actions necessary to ensure the supply of natural gas with punctuality and quality, providing reliability and operational safety and people, reducing the possibility of damage to the environment.

5. AUTHORITY AND RESPONSIBILITY

IN THE DISTRIBUTOR		
ACTIVITY	AUTHORITY	RESPONSIBILITY
Review this procedure	Head of Operations Control Service	Control Centre Technical Manager
Monitor pipeline variables	Head of Operations Control Service	Control Centre Technical Manager
Formalize delegation	Head of Operations Control Service	Control Centre Technical Manager
Issue READY TO OPERATE WARNING	Head of Operations Control Service	Control Centre Technical Manager
Authorize restart of operation after interruption due to abnormal situations	Head of Operations Control Service	Control Centre Technical Manager

NO TRANSPORTER / OPERATOR		
ACTIVITY	AUTHORITY	RESPONSIBILITY
Review this procedure	General Manager	Designated Employee
Monitor pipeline variables	CNCL Shift Coordinator	CNCL Operation Technician
Formalize delegation	CNCL Shift Coordinator	CNCL Operation Technician
Issue READY TO OPERATE WARNING	CNCL Shift Coordinator and DTRM / MND1 Sector Manager	CNCL Operation Technician and designated employee
Authorize restart of operation after interruption due to abnormal situations	CNCL Shift Coordinator and DTRM / MND1 Manager	CNCL Operation Technician and designated employee



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6. DESCRIPTION

6.1. DESCRIPTION (“BATTERY LIMIT”) OF THE DESIGNED DELIVERY STATION: [name of delivery station]

It is the physical point of the TRANSPORTER DELIVERY STATION, in this case called: [name of delivery station], which interconnects through an interconnecting flange with the DISTRIBUTOR STATION, as defined in the document in Annex I (photo and coordinate).

6.2. OPERATING HIERARCHY AND OPERATING AND SAFETY LIMITS

6.2.1. OPERATIONAL HIERARCHY FOR STEPS PREPARATION AND OPERATION

- i. Coordination and operational control of DISTRIBUTOR INSTALLATIONS are carried out by CCOR, with the support of DISTRIBUTOR field teams.
- ii. Coordination and operational control of the TRANSPORTER pipeline are carried out by CNCL, with the support of the TRANSPORTER field teams.

6.2.1.1. OPERATION PREPARATION STAGE

- i. After a shutdown, the preparation for the restarting of the point of delivery operation must be preceded by the issuance of the READY TO OPERATE NOTICE by the responsible for the malfunction and the issuance of authorization to restart the operation by the other PARTIES.
- ii. The restart should be conditioned to the correction of any abnormalities and assessment of the risks involved. Subsequently, the origin of the anomaly will be informed to all PARTIES.
- iii. READY TO OPERATE NOTICE must be performed simultaneously by telephone and / or electronic contact after verifying internal alignments and operating conditions in the INSTALLATIONS.
- iv. The authorization to restart the operation must be done simultaneously by telephone and / or electronic contact, after verifying internal alignments and operating conditions in the INSTALLATIONS.

Notes:

- READY TO OPERATE NOTICE must be issued prior to the start / restart of operation;
- For all situations, the READY-TO-OPERATE NOTICE is valid for 1 hour from your authorization by the other Parties, provided there are no changes to the original conditions. After this period has elapsed for restarting, a new WARNING READY TO OPERATE should be issued.



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6.2.1.2. NORMAL OPERATION STAGE

The table below sets out the actions to be followed and those responsible for the normal operation of the pipeline.

ACTIVITY	WHO		
	DISTRIBUIDORA	TRANSPORTER / OPERATOR	
	[control centre name Retailer name]:	CNCL	DTRM / MND1
Real-time monitoring of process variables according to local procedures.	E	E	-
Communicate to the other PARTIES any change in the operating limits.	E	E	C
Immediately contact the other PARTS involved in case of pressure surges or flow that destabilize the operation.	E	E	C

Caption: AND - Performs / C - Collaborate

6.2.1.3. RESTING REGIME STAGE

a) For a TRANSPORTER DELIVERY STATION, after it has been put into operation (conditioning and pressurization), the rest step will not be repeated, except in case of any anomaly and / or suspected leakage.

b) In the event of a downtime, preparation for the resumption of operation of the TRANSPORTER DELIVERY STATION shall be preceded by the request and issuance of the READY TO OPERATE NOTICE by the PARTIES concerned, as detailed in 6.2.1.1.

c) During the period when the pipeline does not return to normal operation, the CNCL and the DISTRIBUTOR (via the control centre) shall monitor the pipeline variables under their responsibility.

6.2.2. OPERATIONS NOT PROVIDED FOR IN THIS PROCEDURE

Operations not provided for in this procedure should only be carried out after risk assessment and definition of complementary measures agreed between the PARTIES involved.



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6.3. DELEGATION, COMMUNICATION AND MONITORING OF VARIABLES

6.3.1. MONITORING OF Duct VARIABLES

The DISTRIBUTOR is responsible for coordinating, supervising, controlling and monitoring the facilities downstream of the BATTERY LIMIT.

The TRANSPORTER / OPERATOR CNCL is responsible for remote pipeline operation and for the supervision, control and monitoring of control variables and real-time field operations of the TRANSPORTER pipeline and its GAS delivery facilities.

In the DISTRIBUTOR, the process variables (pressure, flow and temperature) are monitored by the [**DISTRIBUTOR control centre name**] through the SCADA Supervisory System on a continuous basis.

In the TRANSPORTER, the process variables (pressure, flow and temperature) are monitored by the CNCL, through the SCADA Supervisory System, continuously and in real time. Continuous monitoring enables the gas pipeline operation to be carried out more safely.

In the event of operational failure of the supervisory system of either of the PARTIES, the exchange of operational information shall be affected through regular telephone contacts between the CNCL; [**DISTRIBUTOR control centre name**] and CARRIER area.

6.3.2. DELEGATION

- i. In the DISTRIBUTOR, the [**DISTRIBUTOR control centre name**] It is responsible for monitoring the critical variables of the GAS receiving process at the facilities it operates. In case of impossibility of monitoring by the [**DISTRIBUTOR control centre name**], responsibility is delegated to the [**DISTRIBUTOR control centre name**] as long as the impossibility of remote monitoring persists.
- ii. In the TRANSPORTER, CNCL is responsible for monitoring the critical variables of the GAS transport process in its facilities. In the event of impossibility of monitoring by CNCL, responsibility is delegated by CNCL to the TRANSPORTER field teams, as long as the impossibility of remote monitoring persists.

6.3.3. COMMUNICATION CRITERIA

Operational communication between the PARTIES shall be by telephone, fax or electronic mail. The contacts for communication are in Annex III of this procedure.



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7. ABNORMAL OCCURRENCES AND ACTIONS FOR OPERATIONAL SAFETY

In general terms EMERGENCY RESPONSE PLAN - PRE and the EMERGENCY PLAN DISTRIBUTION SYSTEM / NETWORKS AND RAMAL - ESDP aims to define actions to control contingencies and emergencies.

The PRE and ESDP establish the need for emergency reporting to the appropriate bodies and investigation of the causes of the incident. Management (validity, review history, approval, training of stakeholders) is done individually by the PARTY responsible for the document.

The Parties undertake to keep their PRE and / or ESDP up to date, including each company's area of responsibility and its facilities.

Within their area of responsibility, as per BATTERY LIMITS, the PARTIES are responsible for emergency control actions.

The PARTIES undertake to report immediately, by any means of communication and formalize, in writing, within a maximum of 24 (twenty-four) hours, to the PARTIES involved the occurrence of abnormalities that may compromise the operation of the INSTALLATIONS object of this document.

8. LIST OF CRITICAL INSTRUMENTS AND EQUIPMENT

This listing is provided in Annex II of this PMO.

9. EVENT AND OCCURRENT EVENT RECORDS

The PARTIES shall keep records of all matters pertaining to the delivery of GAS for five years and shall remain available in accordance with the internal rules of each PARTY.

The PARTIES undertake to provide each other with information and to make operational data available to each other, upon request, upon justification of the request. The right of the PARTIES to keep confidential information unrelated to this PMO is reserved.

10. LIST OF ANNEXES

ANNEX I - BATTERY LIMIT

ANNEX II - LIST OF CRITICAL EQUIPMENT AND INSTRUMENTS ANNEX III -

LIST OF PHONES



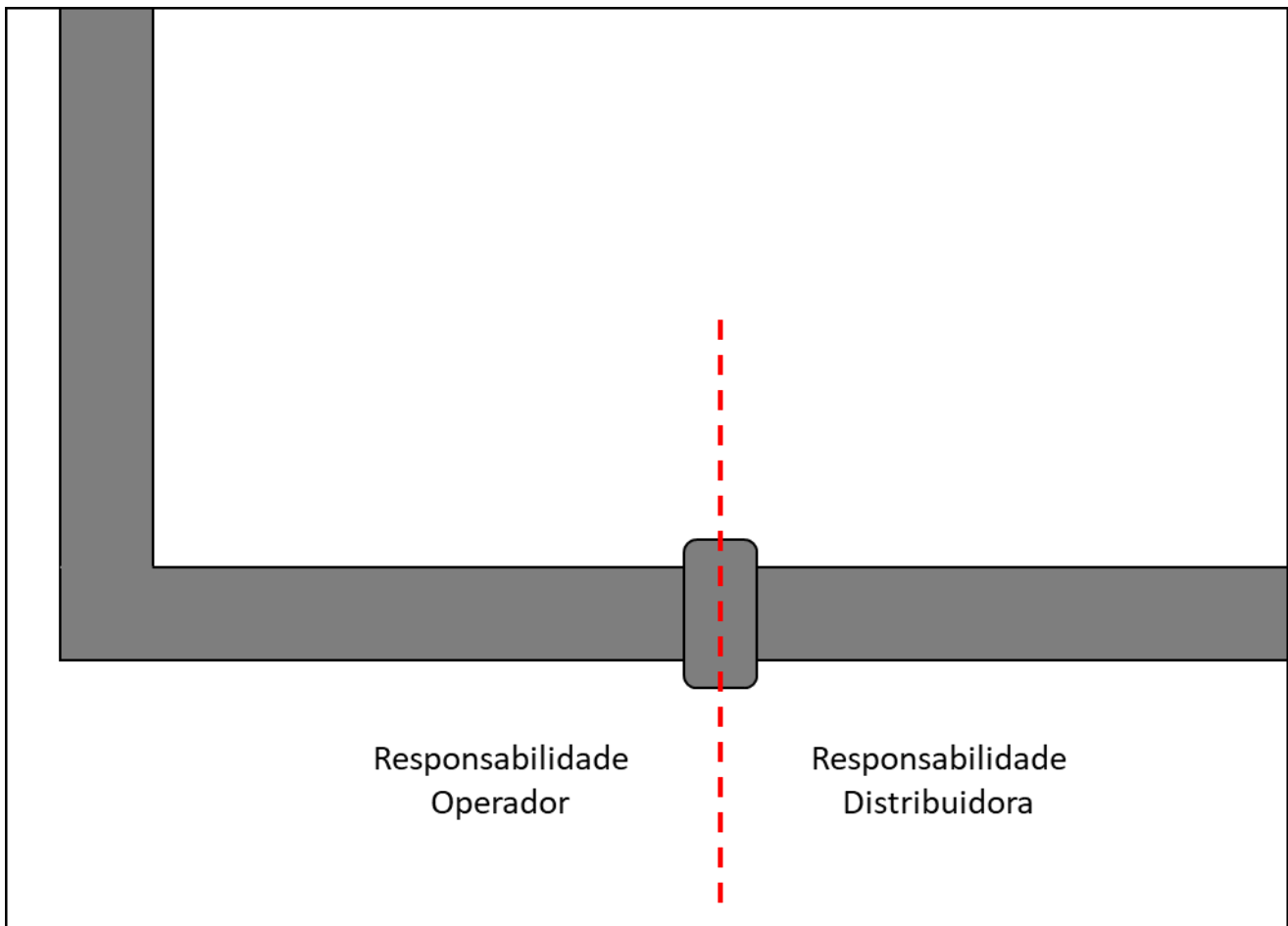
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ANNEX I - BATTERY LIMIT

Delivery Station [name of delivery station]

[insert photo illustrating the limits of responsibilities. Example:



UTM COORDINATES

Delivery Station	X	Y
[Outstation Name shippin]	[coordinates x]	[coordinates y]



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ANNEX II - LIST OF CRITICAL EQUIPMENT AND INSTRUMENTS

CRITICAL EQUIPMENT AND INSTRUMENTS DELIVERY STATION [name of delivery station]			
TAG	DESCRIPTION	LOCATION	LOCATION
[label code]	[equipment description]	[physical location of equipment]	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of equipment]	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of equipment]	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of equipment]	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of equipment]	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]
[label code]	[equipment description]	[physical location of	[equipment location acronym]



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ANNEX III - LIST OF PHONES

DISTRIBUTOR PHONE LIST

NAME	POST/POSITION	PHONES	E-MAIL
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phones]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible phone numbers]	[e-mail of person in mantiqueira]
[name of person in mantiqueira]	[position in mantiqueira]	[responsible Phone numbers]	[e-mail of person in mantiqueira]



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TRANSPORTER / OPERATOR PHONE LIST

NAME	POST/POSITION	PHONES	E-MAIL
Rafael Noac Feldman	Logistics and Integrated Control General Manager	(21) 3211-9294 (21) 99886-4817	rmfeldman@petrobras.com.br
Eduardo Merçon	CNCL Operations Manager	(21) 3211-9197 (21) 99991-5867	egmerson@petrobras.com.br
Maurício Gomes da Fonseca	Gas Programming Sector Manager	(21) 3211-9302 (21) 99837-5317	mgfonseca@petrobras.com.br
Ricardo de Carvalho Pinheiro	Sector Manager of Pipeline Operation	(21) 3211-1393 (21) 99765-7820	ricardodecarvalho@petrobras.com.br
CNCL Shift Coordinator	CNCL COTUR	(21) 3211-9450 (21) 99943-9036	ccg.transpetro@petrobras.com.br
CNCL Operator	CNCL Operator	(21) 3211-9451 (21) 3211-9451	ccg.transpetro@petrobras.com.br
Anderson Pitzer	RJ / MG Pipeline and Terminal	(21) 3227-6694 (27) 99605-9398	andersonpitzer r@petrobras.com.br
Gustavo da Silva Correa	RJ-SP-Angra Pipeline Maintenance Sector Manager (DTRM / RJSP)	(21) 3227-6820 (21) 99380-4380	gustavo.correa@petrobras.com.br
Cristiano dos Santos de Souza	Supervisor	(21) 3227-6161 (21) 99985-7630	cristiano.s@petrobras.com.br