INCIDENT ANOMALY REPORT

REPORT DATE: **19th October 2021.**
TYPE OF ANOMALY: **Material Incident.**
COMPANY/VESSEL : **Transhipping / TS Luxento.**
VESSEL ACTIVITY : **Hose Handling - Offloading.**
INCIDENT DATE/TIME : **15th October 2021/ 16:10LT.**
INCIDENT LOCATION : **FPSO Espirito Santo.**

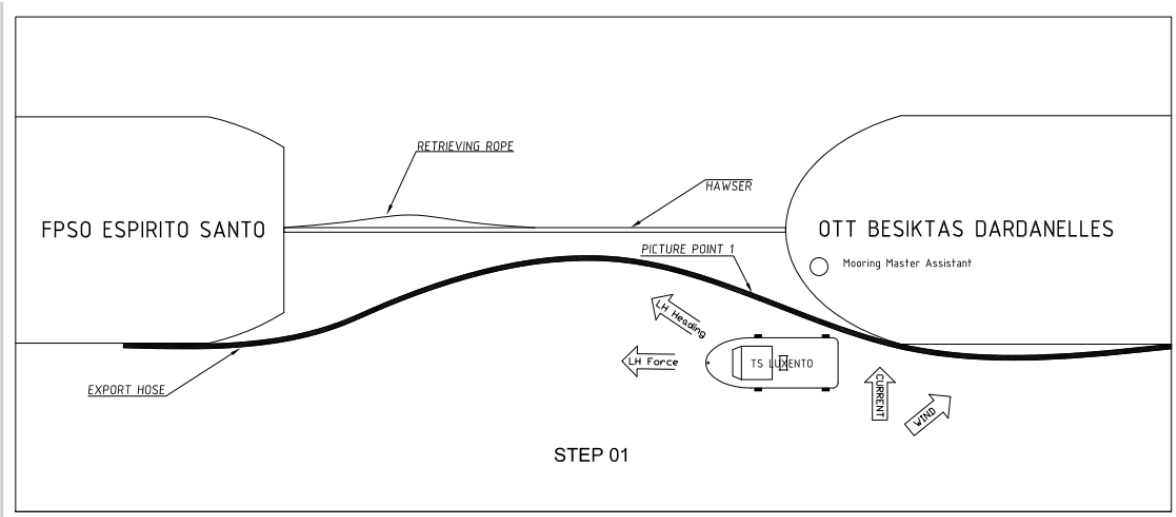
TS LUXENTO CREW:

Master: Mauronir Pires;
Chief Officer: Everaldo Limeira;
Engineer Officer:Jose Santana Carvalho;
2nd Engineer Officer: Rodolfo Smith;
Seaman: Cristovão Correa;
Seaman: Sergio Silva;
Seaman: Clebeson Dionisio;
Cook: Alexander Santos.

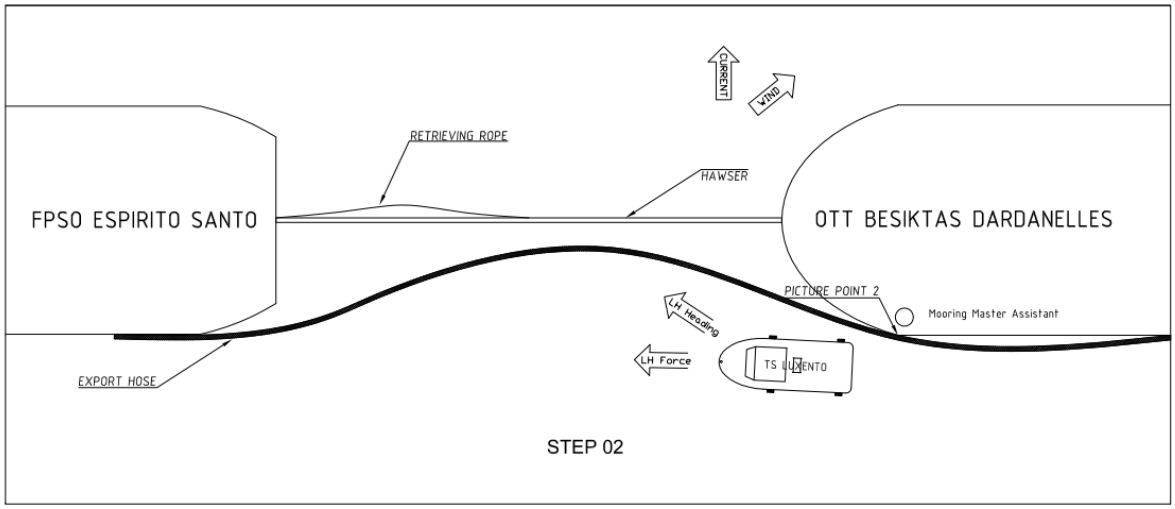
1. INTRODUCTION.

This document is the investigation report of the incident on what the communication, internet and navigation antennas of LH TS Luxento was damaged after making contact with the hawser recovery cable, near the stern of FPSO ES.

2. DESCRIPTION.

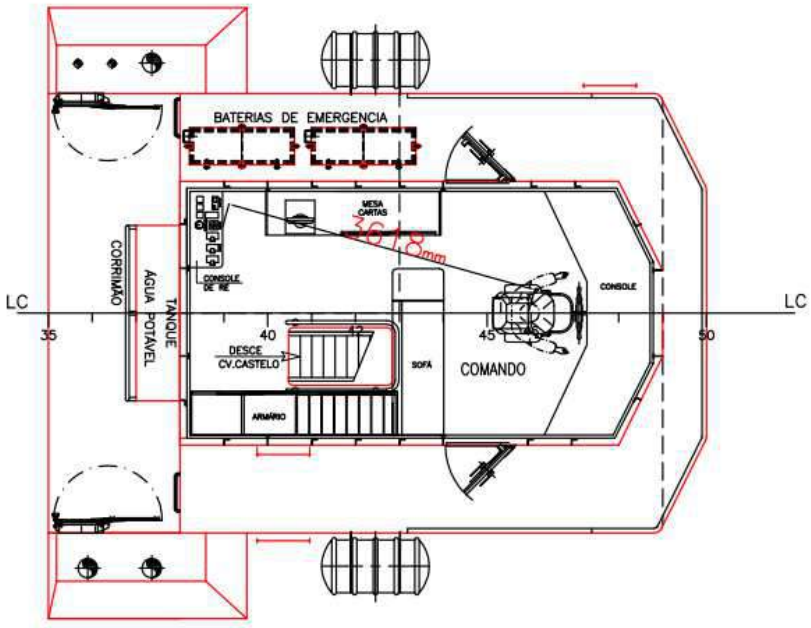


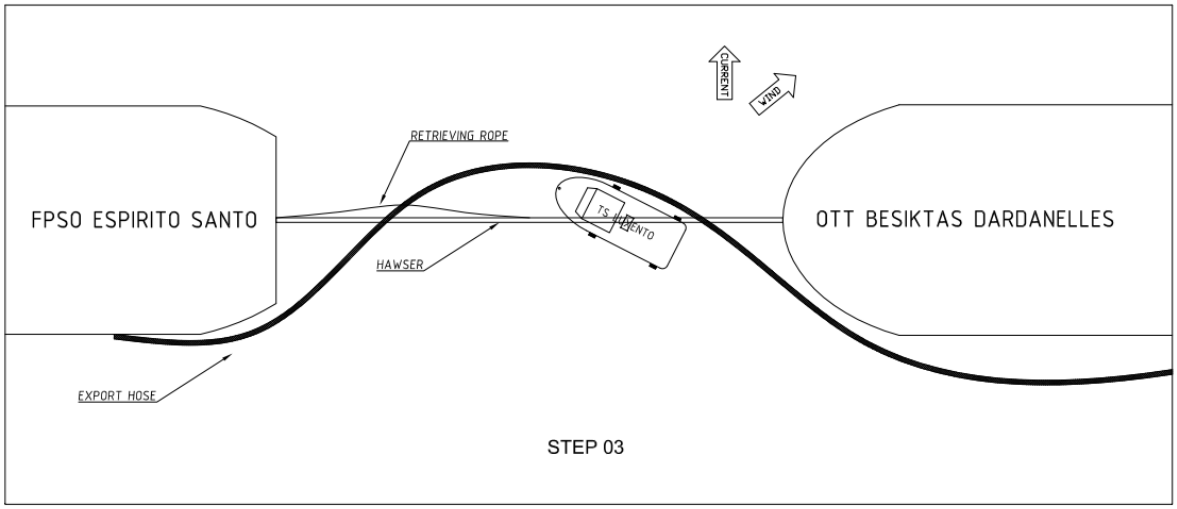
Step 01 – LH TS Luxento approaching to main line hose following instructions of Wladimir Alencar – Assistant Mooring Master to take photos along the hose using the bow command. The seaman took pictures using a mobile phone from the bridge.



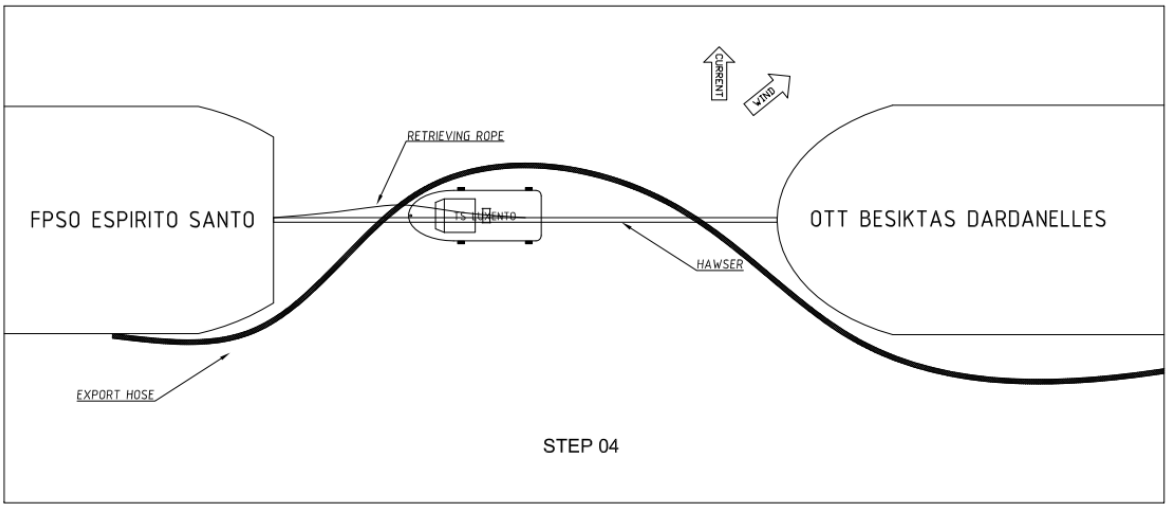
Step 02 – Following the instructions of Wladimir Alencar – Assistant Mooring Master to take photos in other point along the hose that was further after the tug. There is a Able seaman watching the distance. While he tug chief officer moved from the bow command to the stern command , due to the sea current the hose was pushed to starboard and TS Luxento commencing to move to starboard side

in the direction of the hawser. The distance from the bow to stern command is approximately 3.6 meters (Bridge arrangement below).

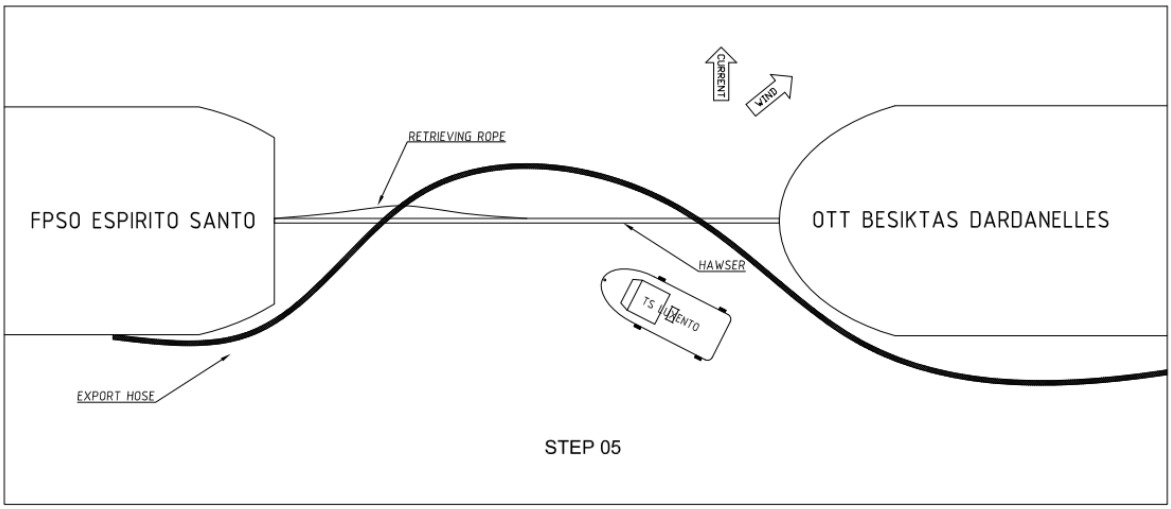




Step 03 – The tug chief officer lost the manoeuvre once the distance between the hose and the tug was less than 10 meters. The tug and the hose moved together at close and passed underneath mooring hawser without any touch. The fact was possible due to the height of the OTT. After cross the hawser, she moved slowly to the FPSO.



Step 04 – TS Luxento entangled communication and navigation antennas with hawser retrieving rope which is lower than the mooring hose.



Step 05 - LH TS Luxento was moved stern following advice of Wladimir Alencar Mooring Master, when he said to pass to the port side coming back close the OTT as the mooring hawser is higher than close to the FPSO. Retrieve rope is slacked down to the water consequence that the hawser reel is free until the operation was completed

2.1 Weather information at the time of operation:

Wave height: 1,5 m;

Wind Direction: NE;

Wind Speed: 24 knots;

Current speed: 2.0 knots;

Current Direction: S.

2.2 Crew on duty in the incident moment:
Chief Officer: Everaldo Limeira;
Seaman: Sergio Silva;
2nd Engineer Officer: Rodolfo Smith.

3. INCIDENT ANALYSIS.

3.1 Event:

- Communication, internet, navigation, anemometer antennas contact with the hawser recovery cable, near the stern of FPSO ES.

3.2 Immediate Cause:

- TS Luxento operates too close to the hawser recovery cable.

3.3 Direct Causes:

- Inadequate TS Luxento hose approach on the OTT proximities to take picture requested from the mooring master assistant;
- The procedure do not establish the tug minimum safe distance from the hose do inspect it, when the hoses are connected to the OTT;
- Failure on pre task analysis.

3.3 Root Causes (Causes Analysis and Fault Tree Analysis in annex):

- Failure on Risk Perception;
- Failure on Procedure Management.

Not defined on the offloading protocol the procedure to take pictures of the hose and consequently the risk assessment for this activity and when in which the condition it needs to be performed.

4. ACTIONS.

4.1. Correctives:

- Communication with Transhipinsurance company - Done;
- Disseminate the Accident Report to Transhipping Fleet- Done ;
- Repair of the damages on TS Luxento- Done ;
- Refresher the training of the Crew on the Stop Work Authority – Next pre-embark meeting.

4.2. Preventives:

- Review of the offloading procedure and Risk Analysis including the inspection manoeuvre of the hoses connected to the OTT and a safe distance from the hoses and the hawser cable to do the inspections – Done ;
- Refresher the training of the Crew on Risk Perception- Next pre embark meeting
- Embark of a nautical officer in the Liner Handling tug to follow the operation and validate the Offloading Procedure- Next pre embark meeting.

ANNEXES:

1- Photos of damages on TS Luxento;

2- Cause Analysis and Fault Tree analysis and Event flowchart.

3- Pictures requested by the Mooring Master Assistant.

4- Check list entrance 500 meters zone.

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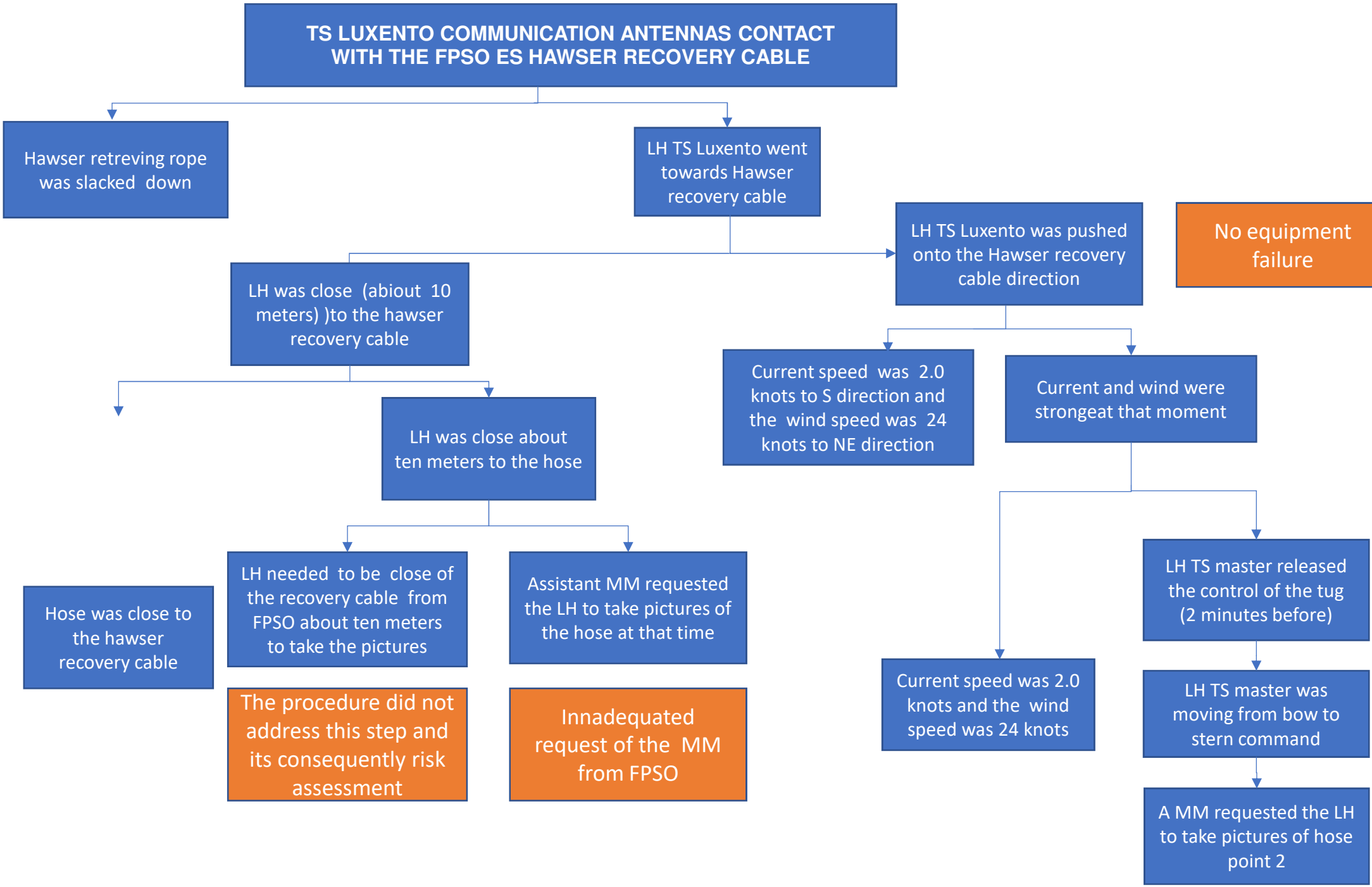
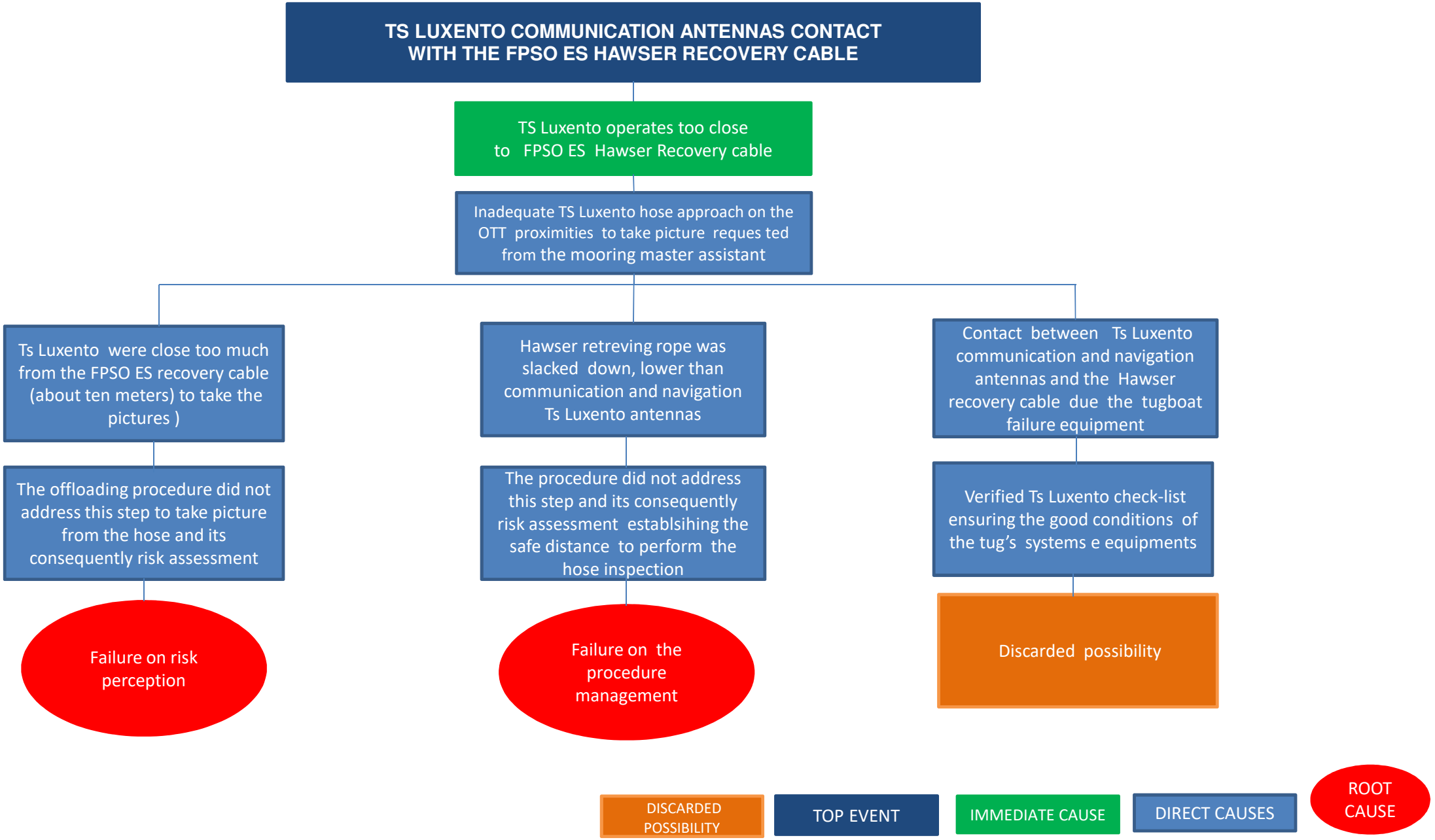

TS LUXENTO COMMUNICATION ANTENNAS CONTACT WITH THE FPSO ES HAWSER RECOVERY CABLE
Hawser retreving rope was slacked down
LH TS Luxento went towards Hawser recovery cable
LH TS Luxento was pushed onto the Hawser recovery cable direction
No equipment failure
LH was close (abiout 10 meters))to the hawser recovery cable
Current speed was 2.0 knots to S direction and the wind speed was 24 knots to NE direction
Current and wind were strongeat that moment
LH was close about ten meters to the hose
Hose was close to the hawser recovery cable
LH needed to be close of the recovery cable from FPSO about ten meters to take the pictures
Assistant MM requested the LH to take pictures of the hose at that time
Current speed was 2.0 knots and the wind speed was 24 knots
LH TS master released the control of the tug (2 minutes before)
The procedure did not address this step and its consequently risk assessment
Innadequated request of the MM from FPSO
LH TS master was moving from bow to stern command
A MM requested the LH to take pictures of hose point 2


TS LUXENTO COMMUNICATION ANTENNAS CONTACT WITH THE FPSO ES HAWSER RECOVERY CABLE
TS Luxento operates too close to FPSO ES Hawser Recovery cable
Inadequate TS Luxento hose approach on the OTT proximities to take picture reques ted from the mooring master assistant
Ts Luxento were close too much from the FPSO ES recovery cable (about ten meters) to take the pictures)
The offloading procedure did not address this step to take picture from the hose and its consequently risk assessment
Failure on risk perception
Hawser retreving rope was slacked down, lower than communication and navigation Ts Luxento antennas
The procedure did not address this step and its consequently risk assessment establsihing the safe distance to perform the hose inspection
Failure on the procedure management
Contact between Ts Luxento communication and navigation antennas and the Hawser recovery cable due the tugboat failure equipment
Verified Ts Luxento check-list ensuring the good conditions of the tug's systems e equipments
Discarded possibility
DISCARDED POSSIBILITY
TOP EVENT
IMMEDIATE CAUSE
DIRECT CAUSES
ROOT CAUSE


BEŞİKTAŞ DARDANELLES


BEŞİKTAŞ DARDANELLES


DARDANELLE


BEŞİKTAŞ DARDANELLES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ANEXO A – LISTA DE VERIFICAÇÕES - AÇÕES ANTES DA ENTRADA NA ZONA DE SEGURANÇA DE 500 METROS DAS PLATAFORMAS OFFSHORE

INFORMAÇÕES	REGISTROS DO COMANDANTE
Registrar o nome da embarcação	TS INVICTO
Registrar data da operação	15 DE OUTUBRO DE 2021
Registrar horário da operação	08:00 HORAS
Registrar nome da Plataforma	FPSO ESPÍRITO SANTO
Nome por extenso do Comandante	MAURONIR PIRES DE BRITO

AÇÃO OU VERIFICAÇÃO	*RESPONSÁVEL*	REGISTROS DO COMANDANTE			
		SIM	NÃO	N/A	OBSERVAÇÃO
Receber a programação de operação com a Plataforma	Comandante	X			
Realizar reunião de pré-tarefa e informar aos tripulantes de serviço a manobra que será realizada	Comandante	X			
Confirmar a permanência do Chefe de Máquinas na Praça de Máquinas	Comandante	X			
Solicitar que o(s) marinheiro(s) guarneça(m) o convés principal.	Comandante	X			
Verificar o funcionamento do gerador / não realizar troca de geradores, evitando "black-outs" temporários durante a operação	Chefe de Máquinas	X			
Verificar o funcionamento dos motores principais e suas respectivas caixas reversoras	Chefe de Máquinas	X			
Verificar funcionamento das bombas hidráulicas da Máquina do Leme	Chefe de Máquinas	X			
Acionar as manetes da propulsão para as posições: vante, neutro e ré. Alterar suavemente as rotações dos motores	Comandante	X			
Acionar joystick do leme para bombordo e depois para boreste, com máquina a vante ou a ré	Comandante	X			
Verificar funcionamento dos equipamentos do passadiço (rádio VHF, rádio SSB, radar, GPS, indicador de ângulo do leme, ecobatímetro); mantê-los ligados	Comandante	X			
Verificação das luzes de navegação e do holofote de busca (em caso de operação noturna)	Comandante / Marinheiro	X			
Informar à Plataforma Offshore, via rádio VHF, que a checagem geral foi realizada e que procederá com a entrada na Zona de Segurança de 500 metros	Comandante	X			
Registrar a checagem no Diário de Navegação	Comandante	X			
Assinatura do Comandante					