PS25834 Uncontrolled lowering of load
Dangerous Occurrence

Incident description

- During cargo offload Framo hydraulic oil system tripped causing the crane to stop. The load remained suspended by the crane brakes.
- On restart of Framo system the load (7te container) was allowed to lower in an uncontrolled manner, coming to rest on the cargo offload hose and guardrail.
- Once Framo system had been fully restored the crane was function tested and the load returned to the supply vessel.

Potential		✔
Major		
Significant		
Serious		✔
Minor		
Event		

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Findings

- Crane being used in Lift From Supply Vessel (LFSV) mode.
- Crane hydraulic pressure system decayed to zero when Framo tripped.
- Framo system restored whilst in LFSV mode – brake released by design in this mode.
- Combination of position of ELLS (Emergency load lowering system) flow control valve & inherent oil leakage within motor allowed winch motor to descend faster than expected.

Observations

- Inadequate training in the correct use of LFSV function including inadequate identification of crane differences.

- No emergency operating procedures for the safe restoration of hydraulic oil pressure following Framo trip.

- FMEA considering potential failure mode of creation of HP flowpath could not be found.

- Framo system trip identified as common alarm, more specific cause of trip required.

Recommendations

1. Evaluate and revise training, add assessment module and roll out to all Crane Operators.
2. Create operating and emergency procedures. Incorporate suspended load exercises into HSSEQ plan
3. Consider LFSV mode change to automatic.
4. Hasten delivery of new crane Operating Manuals.
5. Assess the close out effectiveness of Maersk engineering change procedure
6. Carry out a reliability review of the Framo System.

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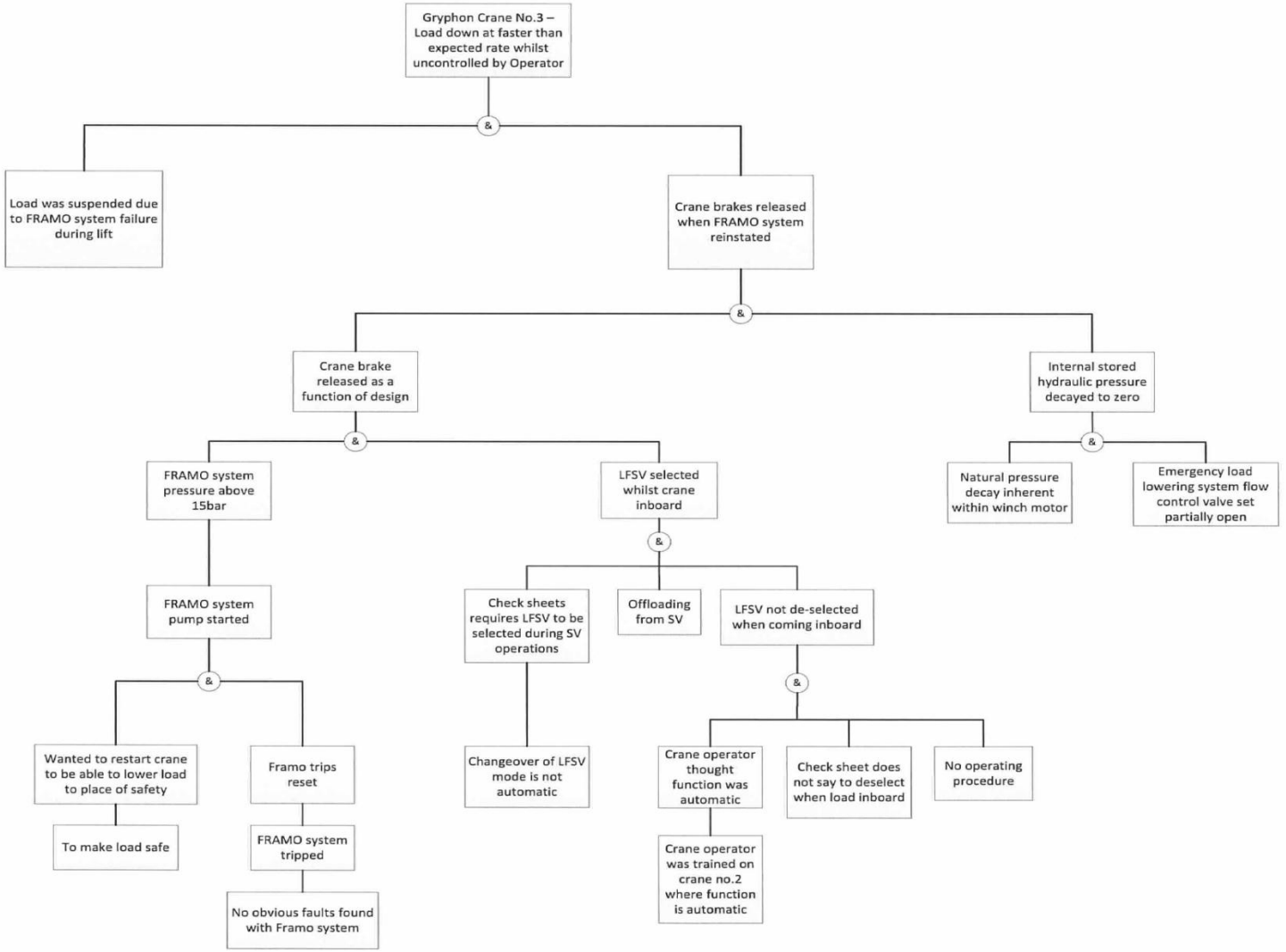
WHY TREE


Gryphon Crane No.3 – Load down at faster than expected rate whilst uncontrolled by Operator
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Load was suspended due to FRAMO system failure during lift
Crane brakes released when FRAMO system reinstated
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Crane brake released as a function of design
Internal stored hydraulic pressure decayed to zero
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&
FRAMO system pressure above 15bar
LFSV selected whilst crane inboard
Natural pressure decay inherent within winch motor
Emergency load lowering system flow control valve set partially open
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FRAMO system pump started
Check sheets requires LFSV to be selected during SV operations
Offloading from SV
LFSV not de-selected when coming inboard
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Wanted to restart crane to be able to lower load to place of safety
Framo trips reset
Changeover of LFSV mode is not automatic
Crane operator thought function was automatic
Check sheet does not say to deselect when load inboard
No operating procedure
To make load safe
FRAMO system tripped
Crane operator was trained on crane no.2 where function is automatic
No obvious faults found with Framo system