

## **Fatal accident due to fall from gangway – Sept.2009**

Accident investigation results

## Fatal accident due to fall from gangway

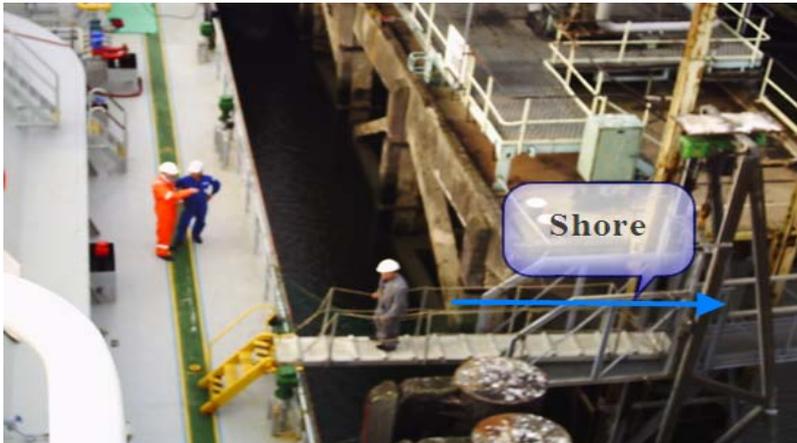


Fig.1 Normal position of gangway



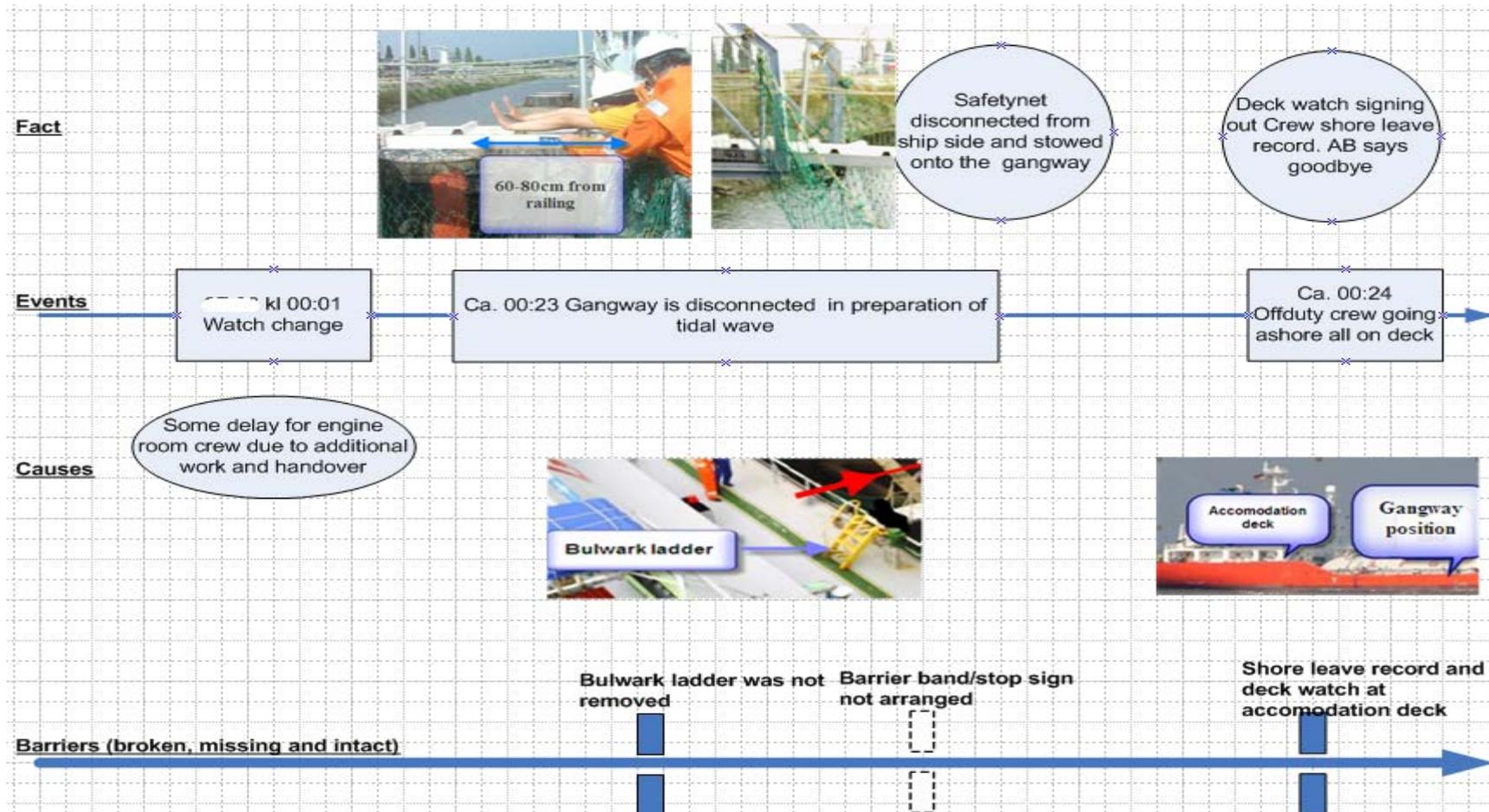
Fig.2 Disconnected position of gangway

- An off-duty crew member was on way ashore from a LPG-vessel on timecharter to StatoilHydro
- The shore gangway was temporarily disconnected due to oncoming tidal wave (bore)
- When the crew member stepped onto the gangway it rotated. Both the seaman and the gangway fell into the water, 3.2 meters below
- The seaman was immediately dragged down by the gangway, probably due to entanglement into the safety net that was attached to the gangway but disconnected from the ship side
- Rescue was not successful, due to very low visibility (muddy water)

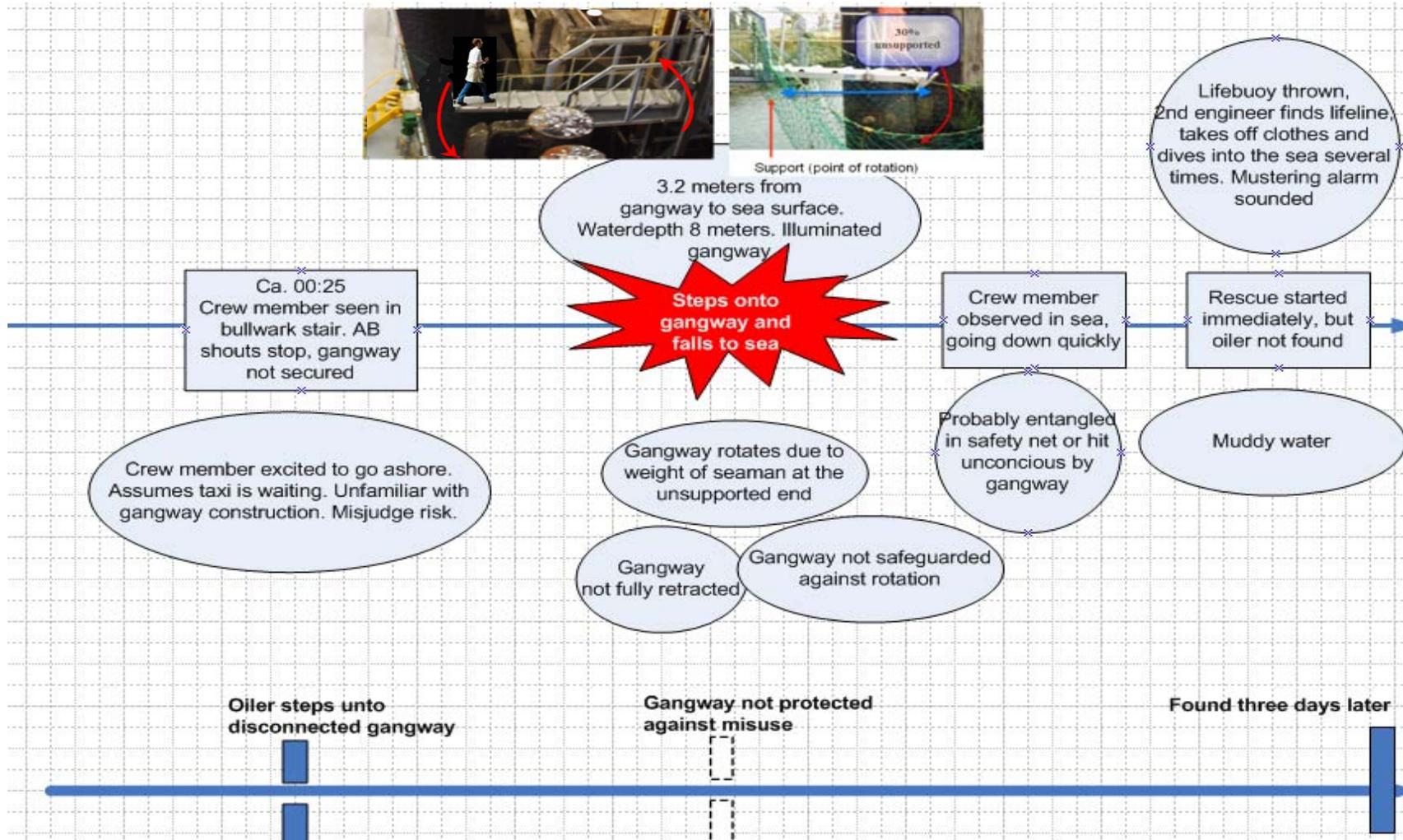
## Four shortcuts and a precondition



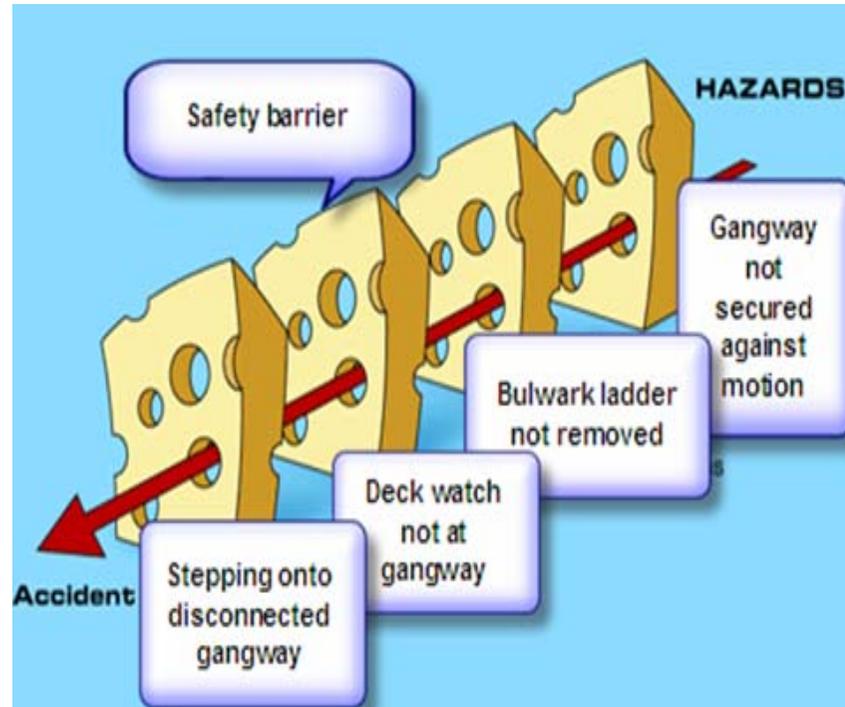
# Chain of events – (MTO-diagram)



# Cain of events continued



## Broken/missing safety barriers



Successive layers of defences, barriers and safeguards

- Stepping ashore without a secure gangway is contradictory to good seamanship. However, a number of other safety breaches contributed to the accident:
- Deck/gangway watch was not located by the gangway. Shore leave record signed although gangway was disconnected
- According to the ship's procedures the bulwark ladder should be removed whenever the gangway is not properly secured
- According to ISGOTT and OCIMF requirements gangways shall be locked against motion in the stored position

## Reflections on compliance and safe behaviour

- Accidents are often caused by an unfortunate combination of seemingly minor non-compliances and shortcuts
- Diligent performance and compliance with rules and regulations starts at the top of an organization and includes such factors as training and coaching of officers and crew, leaders as role models, awareness of rules and regulations, verification and follow-up
- Active near miss reporting/safety observation is an effective tool to train the crew at all levels to observe and act on risky conditions. To encourage this a just, no-blame culture is important. Positive near miss reporting is also recommended
- Positive antecedents are things that prompts the individual to act safely. This includes signs, displays, tools, equipment, information, other peoples example etc. It should be easy to comply

## Reflections on change management

- Due to a very quick tide in this port there was a special need to temporarily disconnect the gangway. Temporary disconnection of gangway is normally not necessary
- It was the first time for the whole crew to visit this port
- Change from normal is a frequent accident cause
- It is important to identify changes from normal, identify the associated risks, discuss with and inform the crew and review the particular safeguards that must be arranged

## Recommendations to ships

- Gangways shall only be used when properly rigged. It is not acceptable to jump to and from the ship or step over open sea
- Use barrier chain and stop sign whenever the gangway is disconnected or otherwise not secured
- Do not leave gangway in intermediate positions. Safeguard gangways against motions in stored position
- Gangway watch and shore leave record to be located in close vicinity of the gangway whenever the ship is berthed
- Inform all crew in due time prior to disconnection of gangway
- Give specific information (pre-arrival meeting and posters) to all crew of special considerations and risks at terminals new to the crew
- Review procedures and practice for change management to ensure that risk identification and mitigation for operations at new terminals are covered

## Recommendations to terminals

- Safe ship-shore access is a joint responsibility of both the terminal and the ship
- Do not leave gangway in intermediate position. Safeguard gangways against motions in stored position
- Use barrier chain and stop sign whenever the gangway is disconnected or otherwise not secured – also from the shore side
- Check the following:
  - Pre-arrival information to ships visiting the terminal. Check that relevant safety information is given, in particular wrt. specialities (different from normal) at the terminal. A premade poster covering the most important aspects is recommended
  - That technical and operational system- and discipline responsibilities for all types of ship/shore gangways at the terminal are well defined and known
  - That there is a satisfactory inspection and maintenance program, including compliance with the new IMO guidelines for gangways of 11.7.09 (MSC.1/Circ.133).
  - That a risk analysis/safety review wrt. operational risks for gangways has been carried out and that relevant mitigating measures have been implemented