



LADDER SIMULATOR,

as part of the problem solution

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CAPTAIN



25th IMPA CONGRESS
CANCÚN 2022

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Getting ready for work, Mr. Pilot?



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TEMARIO

- A. The problem, accidents or near misses when embarking or disembarking from a ship. Aspects to take into account**
- B. Related aspects. The human factor, as the root cause of the problem**
- C. The proposed IMO type course. “ Pilot scale operation, maintenance and installation”**
- D. Conclusions**

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A. The problem, accidents or near misses when embarking or disembarking from a ship. Aspects to take into account

- ⚓ **Accidents and near misses** frequently suffered by port pilots during the exercise of their profession;
- ⚓ Even though the statistics may indicate that these have decreased, the reality is different. Every day the pilot makes an "act of faith" when getting on or off a ship; near misses occur every day that are never reported;
- ⚓ In general, the problem is treated mainly from two angles (assembly of the ladder and the action of the pilot). However, reality has shown us and continues to show us that it is a more complex issue, that encompasses many more actors and that there is still much to do;
- ⚓ The idea of a security polynomial appears, where the main actors interact, relate and prove to be mutually dependent.

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2021

Marine Accident Recommendations and Statistics



This document is posted on our website: www.gov.uk/mailb

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June 2022

At industry meetings concerns about dangerously weighted heaving lines and unsafe pilot ladders are regularly voiced. In response, the branch asked that all such incidents, no matter how minor, be reported so a fuller picture of the problems could be gained. In respect of weighted heaving lines, the branch received just 16 reports; far fewer than anecdotal reporting would suggest, perhaps indicating that this extremely hazardous practice is still being under-reported. Much stronger evidence emerged in terms of pilot ladders.

In 2021, the branch received 194 reports about sub-standard pilot ladders. Of those, 172 pilot ladders (88.6%) were not rigged in compliance with SOLAS guidance, and 22 were observed by the pilot as being in a materially poor condition (Figure 2). Fortunately, serious accidents have been rare, but the potential clearly exists and the branch will continue to collate statistics in 2022.

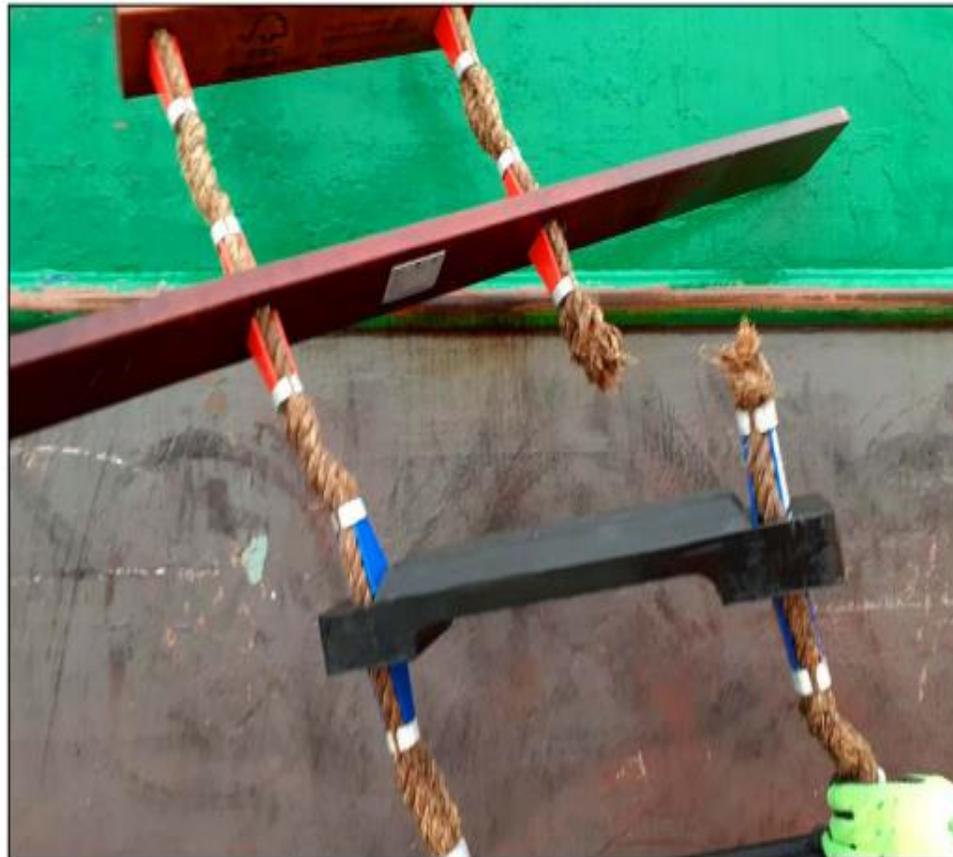


Figure 2: Example of a failed pilot ladder

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Regulatory aspects

Regulation V/23 of the SOLAS Convention addresses the legal requirements for the transfer of pilots and equipment and transfer arrangements.

IMO Resolution A.1045 (27) provides IMO recommendations for technical details of pilot transfer arrangements and equipment. Previous resolution A.889 (21) revoked.

ISO 799:2004 Provides technical information on the construction of pilot stairs only and is now mentioned in resolution A.1045 (27).

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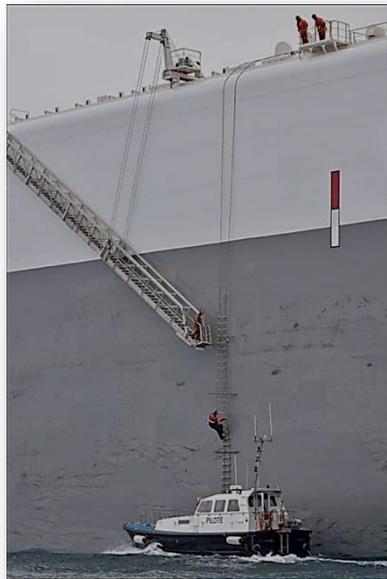
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Security Polinomyal



Ship



Pilot boat



Terminal



Pilot

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B. Related aspects. The human factor, as the root cause of the problem

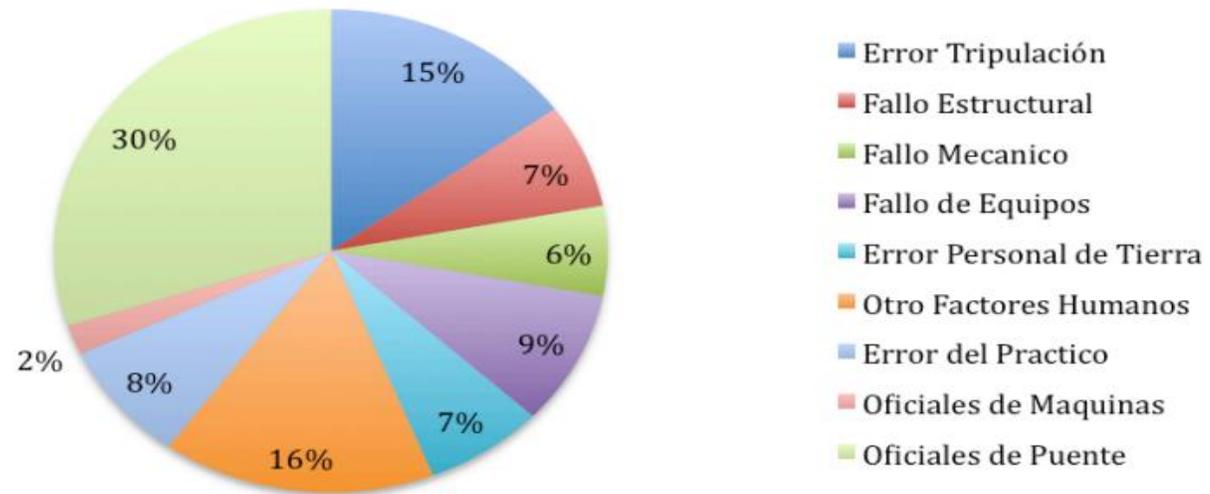
A recurring factor in almost all accidents, incidents and errors is and has been the human element: the inability of people/organizations to deal efficiently and safely with the work involved in their daily tasks.

Most of these accidents, incidents and errors are potentially avoidable if people's understanding, actions and behavior were different. If the reasons for its causes were fully understood and action was taken to solve it.

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Contributing causes

In the following table and according to a study by the *National Transportation Safety Board*, the contributing causes in maritime accidents are shown, and where **human error**² are presented as the most frequent cause, always bearing in mind that these, in general, are not caused, not by a single fault or error, but by a so-called "**chain of errors**"³ :

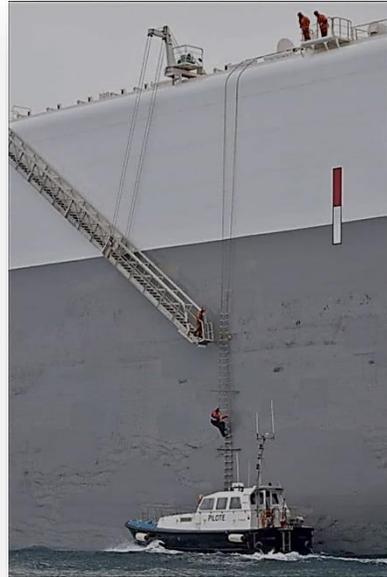


Referencia 2: <https://www.imo.org/en/OurWork/HumanElement/>.

Referencia 3: <https://www.marine-pilots.com/articles/>.

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Pending issues



The Ship



Pilot boat

- ⚓ Pilot ladder. Compliance with the standard (operate and maintain). It is a duty to improve;
- ⚓ Pilot ladder. Create an international certification;
- ⚓ Simulator training for personnel involved in its management.

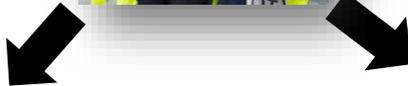
- ⚓ Design with capacity for rescue and evacuation all weather. Certify internationally;
- ⚓ Associated training. Improve and incorporate new techniques;
- ⚓ Adequate crew size;
- ⚓ Incorporate use of real-time simulator.

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Pending issues

- ⚓ Create capacity for evacuation at all times. Certify internationally. It must be compatible with the equipment of the boat;
- ⚓ Training associated with terminal personnel. Improve and incorporate new techniques.



Terminal

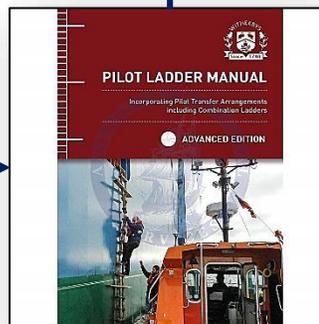


- ⚓ Standardize equipment, which improves chances of survival and is compatible with that of the boat;
- ⚓ Training. Improve boarding and accident techniques;
- ⚓ Training and use of simulator.



Pilot

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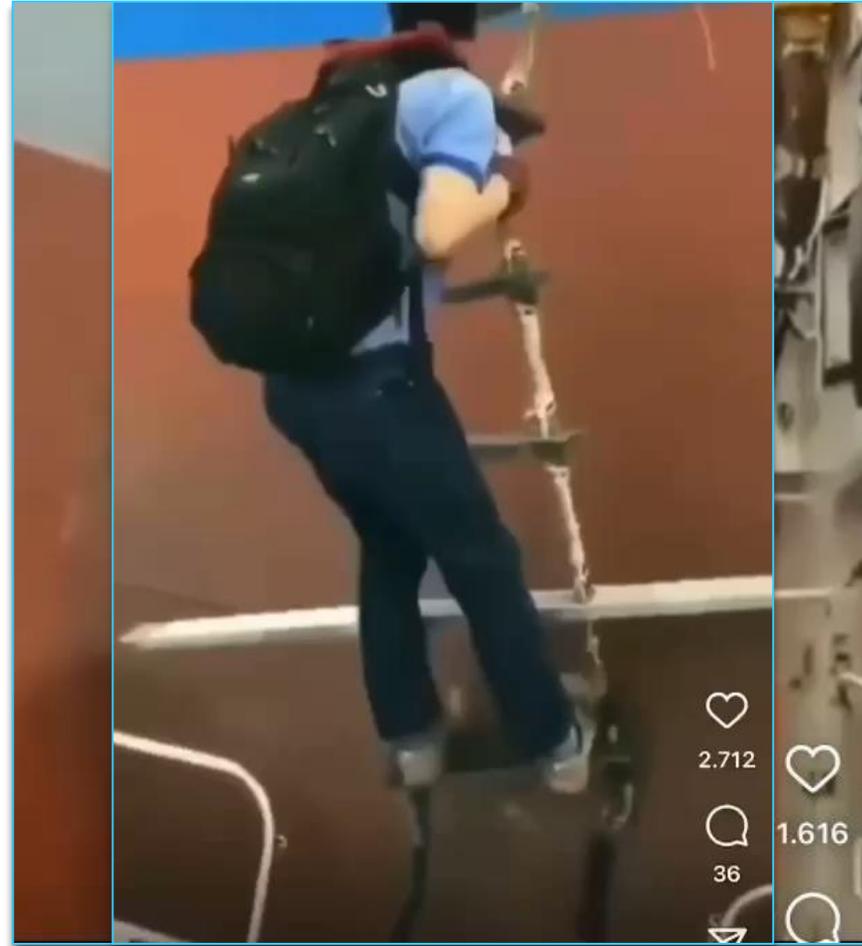


Simulator
OMI type course.



Example of why this model course is necessary

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problema



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C. The proposed IMO type course. “ Pilot scale operation, maintenance and installation”

Justification

1. **train** the crews of merchant ships, in terms of how to operate, maintain and repair the scale of pilots and minimize the risks of accidents when embarking and/or disembarking from a ship, according to the requirements of the SOLAS Convention, Chapter V, Rule 23 and Resolution A-1045 (27) dated 11-30-2011.
2. **contribute** to organizations dedicated to maritime training to acquire the necessary skills so that those directly responsible for directing, operating and maintaining the scale of pilots, can perform their functions safely, both for their own lives and the lives of the personnel in charge of the operations; property security, marine protection and care for the environment.

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Course Structure

It consists of three modules:	hours theoretical	hours practices*
familiarization with the operations and maintenance of the pilot scale	9	9
pilot ladder operation and maintenance	5	6
rescue of casualties from the sea	5	8
subtotal	19	23
Total hours	42	

*The practical hours are in a simulator at the training campus.

Target audiences

Pilots

Seafares

Other professionals in the maritime environment



The simulator

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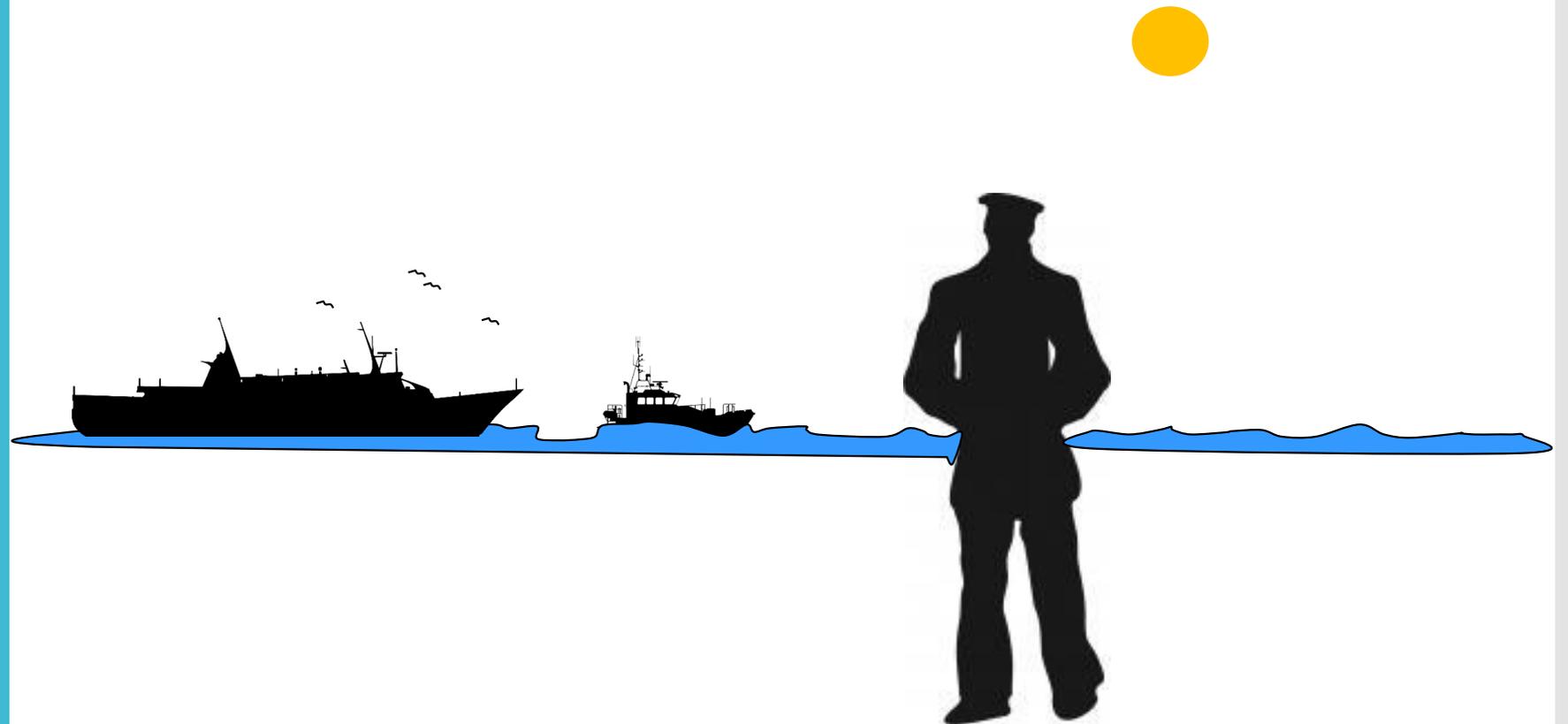
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D. Conclusions

1. the importance of learning from near misses over accidents;
2. the importance of the human factor in these events and of taking decisive action to improve the respective skills;
3. regulatory / legal framework expanded and better defined. That forces to produce the improvements in all the aspects of the polynomial;
4. the real need to implement an OMI-type course of "practical scale employment", which aims to contribute directly to the solution of the problem.

...We can predict better days !!!

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THANKS !!!



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