

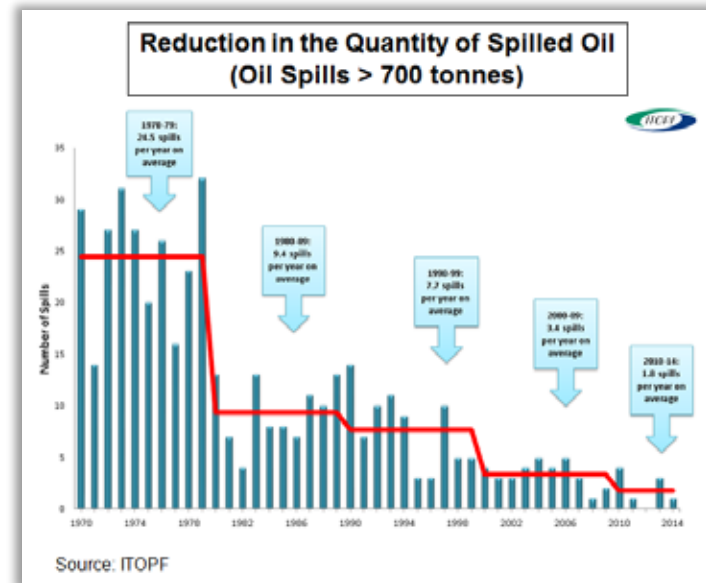
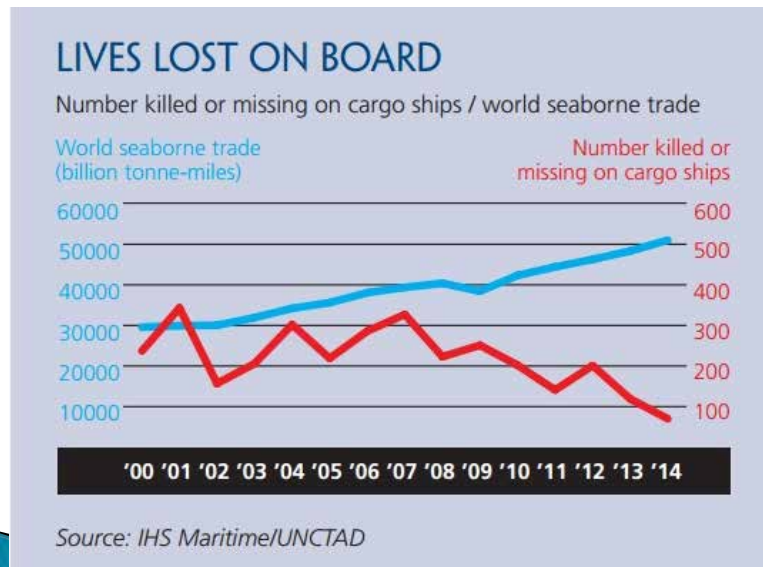
Safe Manning

David Patraiko, FNI
Director of Projects
The Nautical Institute

24 November 2017
NI Hong Kong Branch

Not bad

- } 90% of world trade
- } Shipping is the safest and most environmentally benign form of commercial transport.



www.ics-shipping.org/shipping-facts/shipping-facts

MANNING AND FATIGUE

“ Ensure that manning is considered as a safety issue that operators must address transparently. ”

Deliverables:

- Work with like-minded organisations to ensure all aspects of the ship's trading pattern and the regulations on hours of work and rest are applied when issuing the Minimum Safe Manning Certificate
- Continue the campaign at the IMO with flag states to end the practice of Master/ Mate six-on/six-off watchkeeping
- Build on the publication of *Human Performance and Limitations for Mariners* to raise awareness of this subject in the maritime domain and apply the concepts in practice.

STRATEGIC PLAN 2016-2020



What makes it Safe?

- } Numbers?
- } Price?
- } Commodity?
- } Quality!



6on / 6off – Master/Mate



Master must have the capacity to support watches!

STCW hours of rest

- Minimum of 10 hours of rest in any 24 hour period
- 77 hours rest in 7 day period

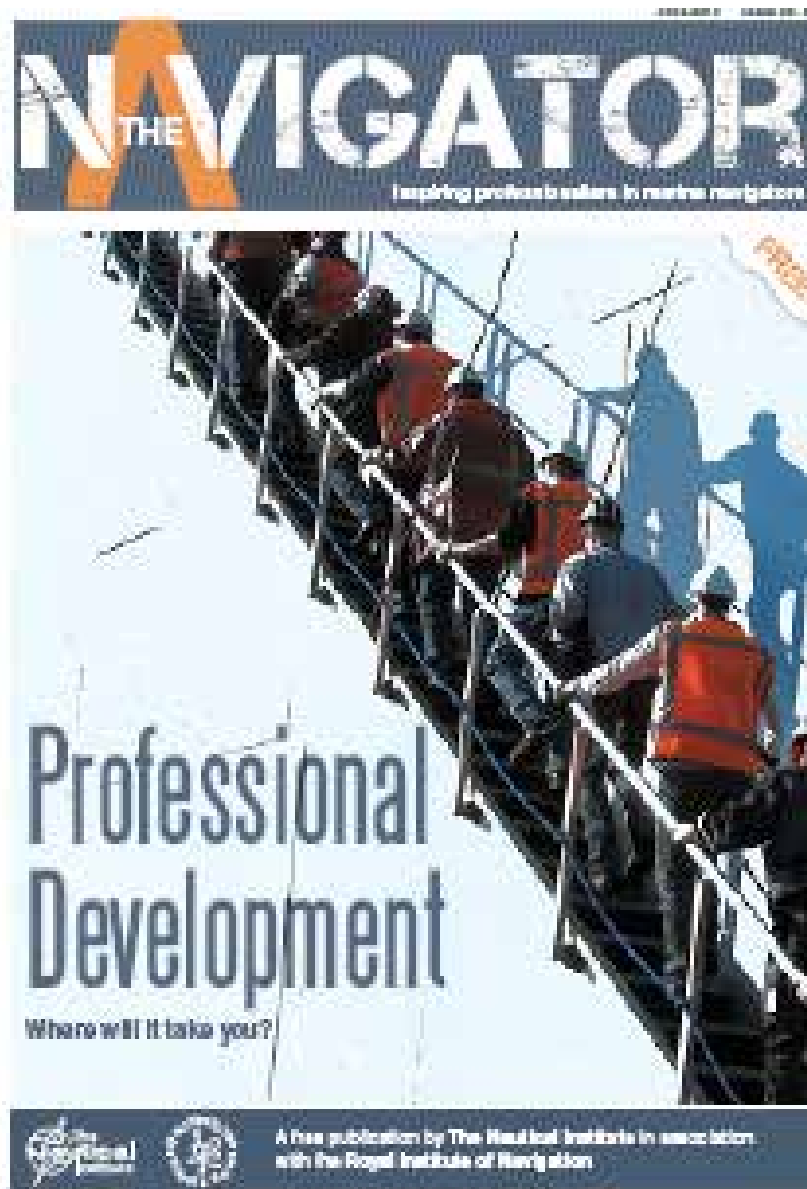
6 on / 6 off = 84 hours per week

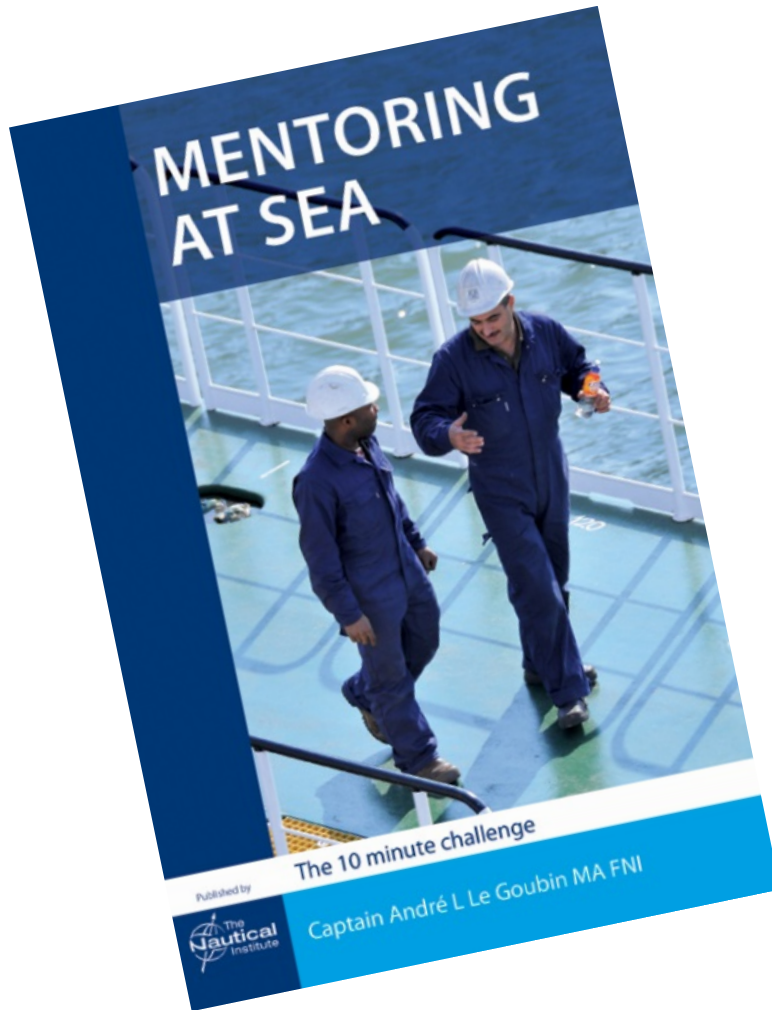
Leaving 1 hour per day for everything else...

MLC hours of work

- Eight hours a day, under normal circumstances, with one day as rest...
- A maximum of 72 hours in any seven day period

6 on / 6 off = 84 hours per week





HUMAN PERFORMANCE AND LIMITATION FOR MARINERS



The Nautical Institute

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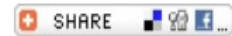


CPD Forms

- [Personal Development Plan 2017](#)
- [Personal Development Record 2017](#)
- [Personal Development Reflective Statement 2017](#)

[Tom Field MNI: "How](#)

Home > CPD



Continuing Professional Development

CPD is so important for professional development, so we have made our CPD forms available to everyone.

The Nautical Institute's online CPD programme consists of 4 stages: research, plan, record and reflect. These stages will help you develop your learning and knowledge, skills and competence beyond your initial qualification. You can find the forms and information to begin your CPD programme for free below.



Case Study

[Case Study Template](#)

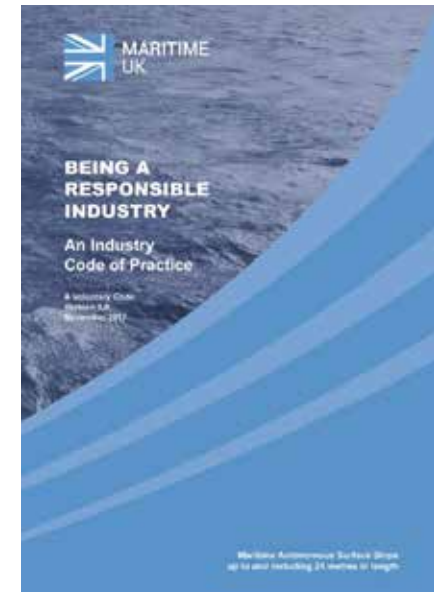


Critical thinking

- } Ships are becoming more complex
- } Complex systems on bridge, E/R, Cargo, administration, maintenance, quality management ...
- } **Skills needed for managing complexity and critical thinking!**
- } *"Multitasking can result in time wasted due to human 'context switching' and apparently causing more errors due to insufficient attention. Studies have shown that it is impossible to focus on more than one task at a time" Wikipedia*

Autonomous Vessels

- } Autonomous vessels are here!
- } Most are small (sub 24 meter)
- } Approved by many Coastal States
- } Advanced sensors
- } Advanced Artificial Intelligence (AI)
- } Capable of 'Deep Learning'



Autonomy and Manning

Short term

- } Unlikely to replace manned vessels
- } Likely to adopt technology onto manned vessels
 - May relieve fatigue
 - May reduce manning
 - May increase complexity
 - Will require new skills/competency



Autonomy and Manning

Longer term

- } Part of logistics chain
- } New ports, vessels and practices
- } New opportunities onboard and ashore (re-skill, up-skill)

- } Automation and AI will significantly impact the world's labour market (Industry 4.0)

Unmanned
Cargo Ship
Development
Alliance



YARA Birkeland

“The indications are that we are completely unprepared for the social, economic and political disruption about to take place. Opportunities will favour those individuals, companies and countries who adapt quickly to skill and industry obsolescence. It will be necessary to fundamentally re-evaluate the role of the seafarer”.



NI Strategy

- } Irradicate 6on/6off Master/Mate practice
- } Reduce fatigue
- } Promote professional development
- } Address issues of complexity and the need for improved critical thinking
- } Address Human Element issues in an age of autonomy and artificial intelligence.

NI Mission (1970)

“Encourage and promote a high standard of qualification, competence and knowledge among those involved in the control of seagoing craft”

Support of The Nautical Institute
through membership and
participation is very much
appreciated!

Join Now!

Thank You

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