

The Scientific Risk-based Approach

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The Scientific Risk-based Approach

What is a risk-based approach?
The current situation at IMO
Why this progressive change?
Other industries: can we learn?
Formal Safety Assessment (FSA)



Embracing a more risk-based approach

Summary and conclusions

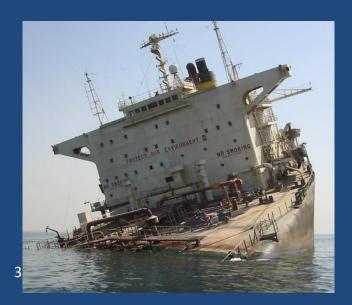
Safety Management



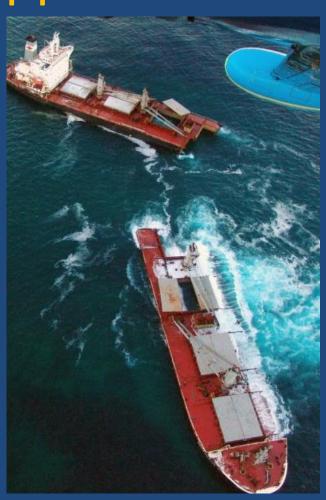


What is a Risk-based Approach?

Explicit hazard identification
Root causes of dangerous events
Proactive and predictive
Consistent with setting goals
Basis for safety management







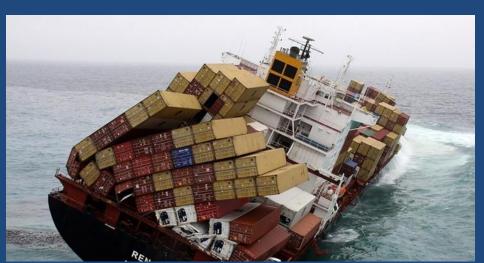
The current situation at IMO

ISM Code **HSC Code**

Alternative Design options Formal Safety Assessment

Risk-based approach already accepted





Why this progressive change?

Changes outpace regulations Design migration Ineffective in face of new hazards Assumptions & limitations implicit Prescription can hamper progress Unintended application Reliance on lagging indicators

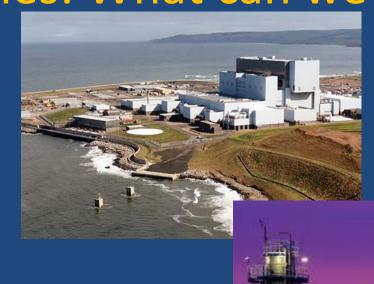
Accidents expose shortcomings





Other industries: What can we learn?

Nuclear
Chemical process
Aviation
Offshore oil & gas
Rail transportation









Formal Safety Assessment (FSA)

Generic application
Current shortcomings
ALARP
(As Low As Reasonably Practicable)







Safety Management

Division of responsibility
'Duty holder' concept
Safety management in design
Safety management through-life







Embracing a more risk-based approach

Sustaining FSA

Strategic review of prescriptive requirements

Beyond prescription

Case-specific ALARP

Holistic safety management

Fundamental regulatory reform

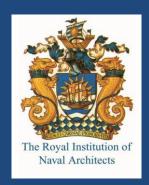
Foresight panel



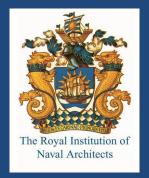
Summary and conclusions

- Strategic FSA review of current prescriptive rules
- Collate specific risk-based application information
- Event and causation data reporting
- > ALARP requirement for certain ships or systems
- > Through-life safety management requirement
- > Foresight panel to anticipate future circumstances
- Proactive fundamental IMO review of regulations





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Photo credits: CAA (A380, slide 6); Fast Ferry International (slide 9)