

How much is enough?


Regulating Preparedness for Oil Spill Response in the Offshore Petroleum Industry

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Technical Challenge

How many?	How much?	What level of?
dispersant aircraft	boom	pre-spill contractual arrangements with 3 rd party providers
recovery skimmers	Dispersant stock	
bird cleaning kits	waste capacity?	
beach masters	...	training
Monitoring vessels		Detail in plans...
...		

And by when (?) and for how long(?)


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“How much is enough?” in three parts


Questions	Answers
1) How much preparedness is needed for a particular offshore activity?	...depends on the situation
2) Who is responsible to figure it out?	...depends on the regime
3) How does (any)one figure it out?	...let’s have a look

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Context - Offshore Oil Spills/ Australia

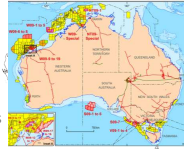
- Drilling rigs, platforms, FPSOs, wells, subsea install
- Generally:
 - Known locations/ oils/ climate
 - Advance planning/ protection priorities
 - Operators with strong local presence
- Possibility of:
 - Very large spill quantities
 - Long spill durations
 - Subsea release
 - Heavy crude - condensates



courtesy of the Los Angeles Times




courtesy of Apache



Australia



- High public expectations on safety and environment
- Large part of petroleum activities located in remote areas

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Context - NOPSEMA and Objectives-Based Regulation

- NOPSEMA: Commonwealth offshore regulator
- Environment Regulations/ OPGGSA (1999) establish **objectives-based regulation**:
 - Non-prescriptive approach
 - Preparedness and response lie with titleholder
 - Risk-based preparedness
 - Accepted plans must be in place before activity begins
 - Regulator assesses & inspects
- Similar approaches: NZ, UK, BR, CA, MX, NO.

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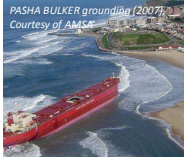


Other Regulatory Approaches

Maritime model

- Government-led/ polluter-pays response
- Preparedness not linked to specific activity

Examples: AMSA (Aus), MNZ (NZ), CCG (CA), RWS (NL)




PASHA BULKER grounding (2007)
 Courtesy of AMSA

Prescriptive/ Standards-based model

- Industry-led response
- Government sets specific technical standards for industry preparedness and response

Examples: USA, Australia prior to 1999



DWH (2010), Courtesy of US Coast Guard

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NOPSEMA Observed Approaches

Which would you choose?

- a) Establish a post-incident planning cycle
- b) Rely on inventory of own/ 3rd party stockpiles
- c) Trust expert opinion
- d) Study need and tailor capability to match, ensuring ALARP
- e) All of the above

*Necessary but not always sufficient**

** Caveat – Nature and Scale
ALARP = as low as reasonably possible*

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NOPSEMA From Risk Assessment to ALARP

1. Run a risk assessment
 - Determine need → Tell responders what they are facing
2. Plan the response
 - Establish capability → what is required/ where you'll get it
3. Ensure ALARP
 - Is there any more you can/ should do?

→ Figure all that out and you'll know how much is enough

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NOPSEMA Describing Need and Capability

Need	Capability
<ul style="list-style-type: none"> • Water depth • flow rate/ duration • oil characteristics/ weathering • water currents/ temperature • slick volumes/ areas over time • sea state/ weather • threats posed (shoreline stranding) • number/ size/ characteristics of priority areas for protection 	<ul style="list-style-type: none"> • rigs relevant for water/well depths... • SSDI systems • support vessels/ resources • dispersant stock • aerial/ vessel spray systems • dispersant stock • monitoring systems ... • number/ type of response teams and resources for P&D, for shoreline clean-up, oiled wildlife response...

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NOPSEMA Matching Capability to Need ...SSDI example


Need	Capability
Dispersant injection/ support systems (incl. dispersant) to deal with specific situation: <ul style="list-style-type: none"> • water depth/wellhead arrangement • flow rate/ duration • oil characteristics/ weathering • water currents/ temperature 	<ul style="list-style-type: none"> • Access to expertise/SSDI system(s) • Support (ROVs, dispersant stock...)

Ability to inject XX m³ dispersant over Y days

Key/ expertise, Dispersant supply, Regional international stocks, Contract A, Contract B, Regional international stocks, own

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NOPSEMA



Courtesy of AMSA


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DWH (2010), Courtesy of National Geographic

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 NOPSEMA **IOPER Workshop 2016**



**International Offshore Petroleum
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Thank you



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