C1 **Comparison of risk regulation regimes and challenges with soft law approaches – experience from offshore oil and gas operations.**

Prof. Preben H. Lindøe

University of Stavanger, Norway

Abstract

The paper has to main components. Firstly it summarize and compare some of the key elements of the risk regulating regimes developed by Norway, UK and US towards the prevention of major accidents in the exploitation of offshore oil and gas resources by using three characteristics of control components (1) information gathering, (2) standard setting and (3) behaviour modification.

Secondly the paper address challenges and dilemmas embedded within the new modes of risk regulation with a "soft law approach". Such dilemmas can be found within the institutional arrangement among regulators and industrial stakeholders as: (1) developing strategies to cope with increasing complexity embedded in technological developments; (2) organizational change and innovation when firms adapt to new situations and new technology and thereby reframe their activity with new norms and rules; (3) inspectors' role of compliance with the law and acting as a change agent to improve industrial safety performance; and (4) the issue of trust and relationship among actors internally and between the regulator and the industry.

Strengths and weaknesses of the different approaches and the interchangeability of elements in the regulatory systems are discussed in order to determine if there are consistence between the elements of the analytical framework and the regulatory approaches.

References

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Comparison of risk regulation regimes and challenges with soft law approaches –
experience from offshore oil and gas operations

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Prof. Preben H. Lindøe

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Outline

- *What are the characteristics of the regimes?*
  - The Norwegian offshore regime as a point of reference
- Comparing the regimes
- Dilemmas with soft-law regulation
- Conclusions

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The Robust Regulation Project

Project goals:

- Understand and conceptualize the robustness of the Norwegian risk regulation regime
- Compare the Norwegian regime with UK and US
- Assessing relation between regulation, risk management systems and risk behaviour in the industry

- Partnership with industry, unions and regulators (PSA)

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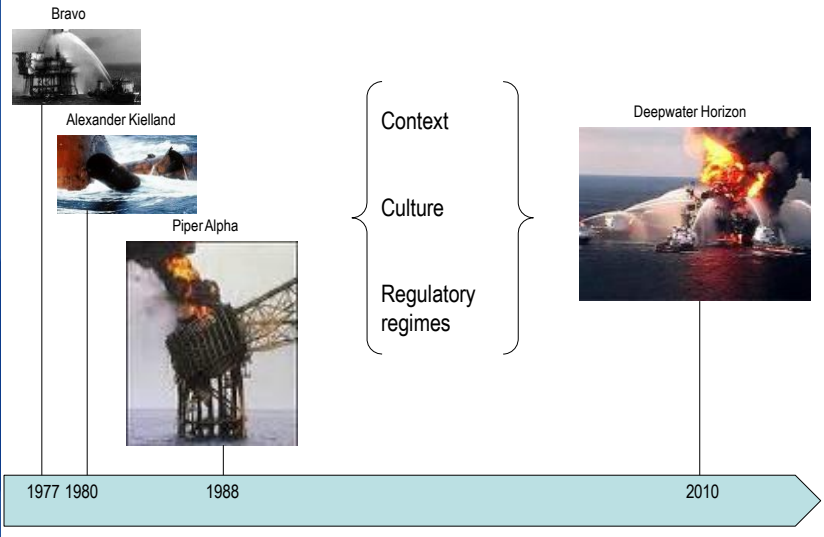
North Sea 1980s vs. Gulf of Mexico 2010: Lessons to be learned?



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Influence of major accidents

Time	Major accident	UK-regulations	Norwegian-regulations	US-regulations
1961-1970	Sea Gem (1965) Amoco Cadiz (1969)	Continental Shelf Act (1964)	Petroleum Act (1963)	Outer Continental Shelf Lands Act (1953)
1971-1980	Bravo (1977) Alexander Kielland (1980)	Mineral Working (Offshore Installation) Act (1971)Robens report (1972) HSWA (1974) Burgoyne Committee (1977)	Regulations relating to safe practices (1975 and 1976). Work Environment Act (1977)	
1981-1990	Piper Alpha (1988)	The Lord Cullen Report, 1990	Principles of internal control (1981), Petroleum Act (1985)	
1991-2000		Offshore Safety Act (1992)	Petroleum Act (1996)	
2001- 2011	BP Macondo (2010)	Offshore Installation (Safety Case) Regulations (2005)	Revised regulations (2011)	Separation of leasing function & creation of BOEMRE agency, new prescriptive rules & SEMS rule (2010, 2011)

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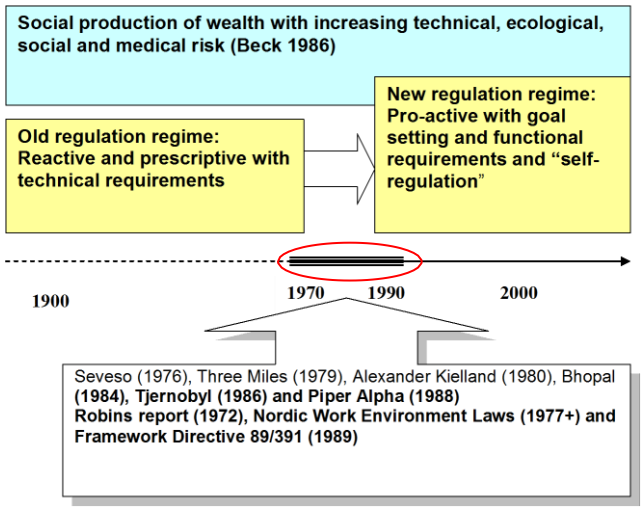
A paradigm shift in risk regulation



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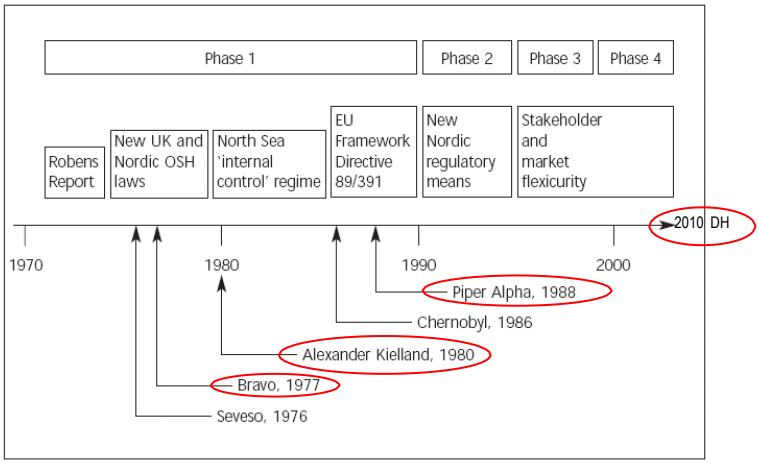
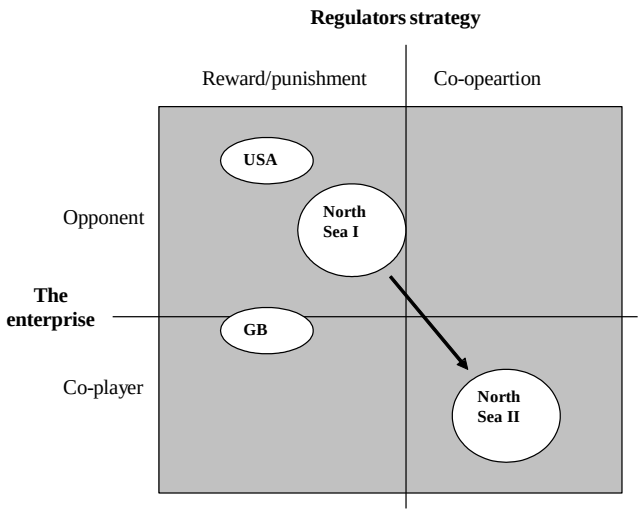
Phases in European safety regulation



Karlsen & Lindøe: The Nordic Model at a turning point? Policy and Practise in Health and Safety. 04.1, 2006 (17 – 30)

Change in regulatory strategy on the Norwegian continental shelf (1980s)



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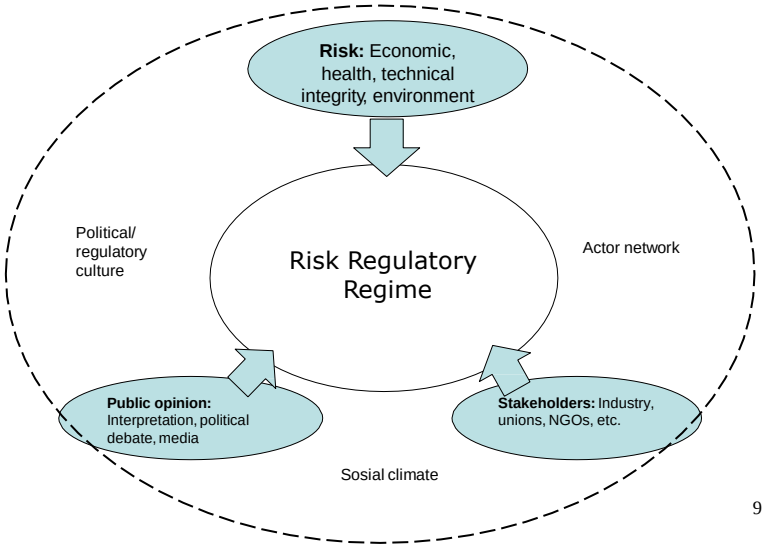
A Risk Regulatory Regime



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The control components

	Information gathering	Standard setting	Behaviour modification
USOCS	Legal requirement of Lost Time injury, oil and gas emission, but not yearly updating of safety performance data. Initiatives taken to improve voluntarily reporting.	Laws and regulations with prescriptive detailed rules providing a multitude of legally-enforceable requirements with industrial standards included.	Unannounced and announced inspections using detailed checklists of "Potential Incidents of Non-Compliance" (PINC). Hard policing and sanctions for non-compliance. Low involvement of workers and unions.
UKCS	Requirement to report injuries, diseases and dangerous occurrences. Yearly reports and statistics provided by HSE. The "Key program" provides important safety indicators	Goal and risk based regulation with a detailed "Safety case" has to be qualified by independent and competent actor and approved by HSE.	A flexible approach balancing enforcement with the industries choice of technology and systems to meet safety standards.
NCS	A monitoring program of safety performance, based on tripartite effort has been developed since 2001. Gives priority for regulators enforcement strategy	Coherent and integrated laws and regulations. Risk and performance-based with use of legal standards with flexible interpretation and use of industrial standards.	Based on dialogue, trust based and soft instruments as enforcement strategy. Involvement of workforce unions at national, industrial and company

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Comparing NCS and US (I)

Area	Norwegian continental shelf	US outer continental shelf
Legal framework	Coherent integrated performance based framework with functional requirements. A framework regulation with four more detailed regulations. Ambiguity re enforcement and liability.	Many laws and regulations with prescriptive detailed rules with a multitude of legally-enforceable requirements. Also reliance on liability law for deterrence.
Cost-benefit analysis	Ambiguous and not doctrinal	Presidential directive with strong emphasis on restricting burden of new regulations
Legal standards	Legal standards give flexibility and a space of interpretation. Companies follow industrial standards and are free to choose among these standards	Regulators adopt industrial standards for company implementation and agency enforcement. Also application of liability doctrines in lawsuits by government and other parties.

Lindøe, Baram & Braut (2011): Empowered agents or empowered agencies? Assessing the Risk regulatory regimes in the Norwegian and US offshore oil and gas industry. In *Advances in Reliablility and Risk Mangament* (Eds. Berenguer & Soares, 2012, Taylor & Francis Group, London

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Comparing NCS and US (II)

Area	Norwegian continental shelf	US outer continental shelf
Inspections and sanctions	One strong agency (PSA). Inspections announced and dialogue and trust based. Soft helpful approach.	Several agencies (BOEM, BSEE, Coast Guard, etc.).Unannounced inspections using checklists for "Potential Incidents of Non-Compliance" (PINC). Hard policing approach.
Involve-ment of work force	Strong involvement of unions in different arenas of cooperation; policy, industrial and company level	Non-involvement of workers, unions and occupational safety agency.

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Challenges with a soft law approach

1. Combining a bottom-up and top-down approach and the use of legal binding- and non legal binding norms.
2. The paradox of flexibility in managing and controlling risk embedded in organizational change and technological innovation
3. Combining different roles of inspections from compliance with the law (command and control) toward being a change agent for improving safe and resilient operations
4. Balancing between trust and distrust in the relationship among regulator and the regulated and in the industrial relations

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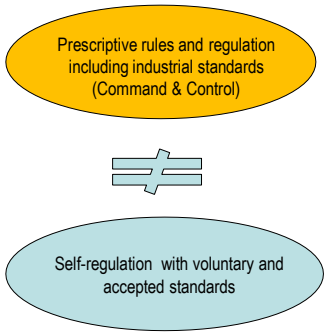
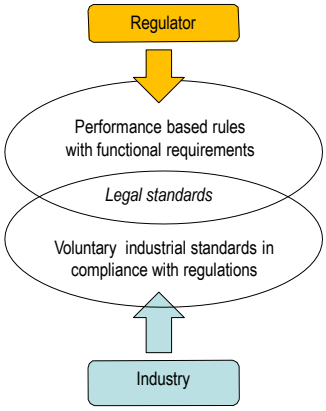
D-1: Different systems or a false dichotomy?





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D-1: Norwegian and US approach

NCS

- PSA delegates control and presumes willingness and capability among the actors to collaborate upon accepted standards for "good practice"
- uses the legislation to establish a binding framework for mutual activities striving for consensus among the actors
- Regulator's role in enabling a collaborative process of continuous improvement (Forums, etc.).

US

- The regulators make clear distinctions between right and wrong as defined by legislation and industry standards.
- Regulators focus on each operator's compliance with their prescriptive rules and standards.
- Regulator reliance on industry for technical standards to improve safety performance.

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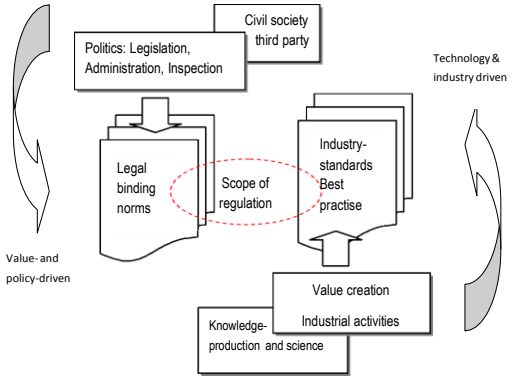
D-1:Top-down vs. bottom up



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D-1: Legal norms and standards

Norms	Main groups	Examples
Legal binding norms	Acts	Petroleum Act, Working Environment Act
	Regulations	The Framework Regulation (Royal Decree) Regulations regarding (1) Management, Activity, (2) Information and (3) Installation (Passed by PSA)
Legal standards	Regulatory guidelines	Guidelines to the regulation Letters of interpretation
Non-legal norms	Industrial standards	ISO, IEC and CEN standards NORSOK-standards Recognised industry standards
	Company internal	Company specific requirements and guidelines Project specific requirements

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Legal standards

- Legal standards makes a connection between the regulatory framework and the regulated activities by involving the companies and their employees and engaging the professionals in the formulation of statements of what should be regarded as safe practice, not only leading them to just comply with legislation.
- Legal standards open up for more updated regulatory practices than what is possible when relying solely upon written statutes with detailed content.

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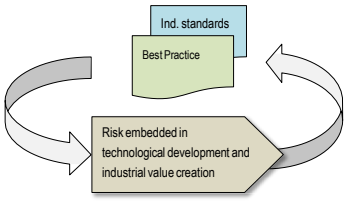
D-2: Self-regulatory systems



- The principles of self-regulation:
  Continuous learning and improvement
  Quality management , Deming circles: Plan-Do.Check-Act

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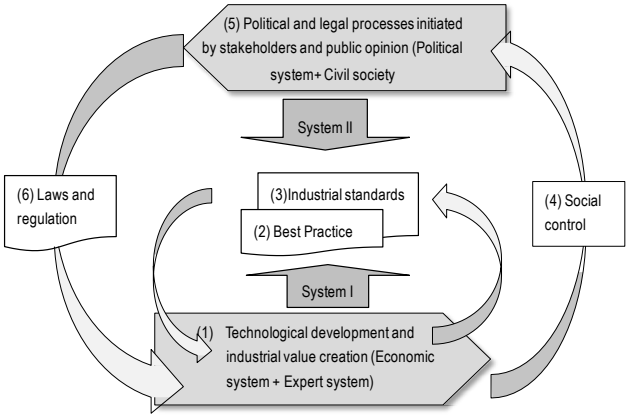
D-2: Enforced «self-regulation»



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D-3: The inspectors dilemma

	Inspectors roles	
	Controller Asymetrical relation	Change agent Symmetrical relation
Legal binding norms Legal standards	1 Investigator an control of compliance with laws and legal binding norms	2 Developing vague legal norms in order to match organizational and technological development
Non-legal norms and standards	3 Negotiation and assessment of industrial standards and Best Practice in compliance with legal standards	4 Aiming at improving industry by matching professional interest and virtue among inspector and industry.

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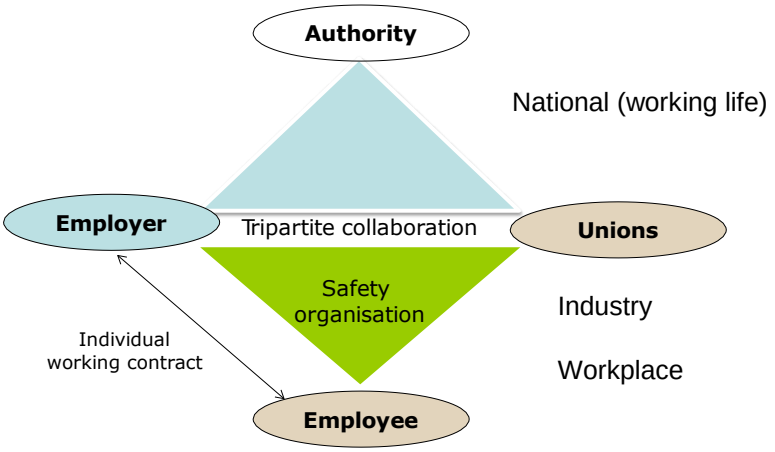
D-4 The trust based tripartite model



D-4: Initiatives to re-build trust

- *Safety Forum*
- *Regulatory Forum*
- *"Working together for Safety" (projct portefolio)*
- *The "Trend in Risk Level" Project*
- *The Competence project*
- *Performance Indicators*

- Around year 2000: Mistrust arose between the industry and the regulator & unions on offshore safety
- 24 Dec. 2000 Fatal accident on Oseberg Øst.
- NPD: *"A culture of violating procedures. This is a management problem…"*
- Public debate on offshore safety (as 20 years before)

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D-4: Trust and distrust

	Trust		
Functional	1 Trust based on mature cautions	2 Naïve and blind trust	Dys-functional
	3 Distrust, based on realistic precautions	4 Distrust based on detailed surveillance and control	
	Distrust		

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Coping with the challenges (I)

Challenge	Norwegian regime	US regime
Coping with complexity	Purpose, performance and risk based regime and compliance based on enforced self-regulation	Command and control with detailed technical & prescriptive requirements. Low threshold for bringing conflicts to court hampers regulatory initiatives.
Paradox of flexibilty	Agencies refrain from enacting detailed rules and instead use broadly stated legal standards and functional requirements to define company responsibilities.	Industry standards, developed by industrial associations, are adopted or recognized by regulators and thereby become inflexible requirements until changed over time by industry

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Coping with Challenges (II)

Dilemma	Norwegian regime	US regime
Inspectors' roles	Combined role as controller and change agents. Mixing of roles may create confusion	Checklist inspection produces prescribed data for determining compliance and enforcement. Misses' big picture of safety management.
Trust/ distrust	High degree of participation by industrial actors, including the workforce & unions, based on egalitarian values. Regulators facilitate arenas for consensus.	Adversarial roles of regulator and industry leads to lobbying against regulator reforms. Transparency. No role for labor. Low degree of trust

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Summing Up (I)

- The Norwegian regime has evolved over 40 years of experience, with changes triggered by major accidents
  - Risk- and performance-based with functional responsibilities and suggestion that companies follow industry standards at their discretion
  - Exchange of experience & ideas across the North Sea with UK
  - One strong coordinating regulatory body (PSA) which promotes a collaborative approach to improving safety.

- The US regime has not changed with regard to the main features of its design and implementation.
  - Regulators required by OCSLA to set prescriptive standards.Usually adopt industry voluntary standards making them mandatory and enforceable.
  - Reliance on industry for new standards, regional moratoria to satisfy opposition, and liability law for deterrence
  - No systematic collection and use of safety performance data
  -

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Summing Up (II)

- The Macondo accident caused producing nations to review their regimes:
  - Norway regarding enforcement ambiguities and new EU offshore safety regulations
  - US regarding value of performance-based approach leading to enactment of SEMS rule on functions to be performed according to API standards and recommended practices

- Interdisciplinary research reveals that the interplay of many factors in addition to accidents have shaped the 2 different regimes: e.g. established roles of industry and labor, national and industrial economic interests, other energy options, legal and administrative systems, number of offshore operations, technological prowess, regard for behavioral aspects of safety management, and cultural values and norms.

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Thanks for your attention.

For further documentation see

Risk Governance of Offshore Oil and Gas Operations
Editors:
Preben Lindøe, Universitet i Stavanger, Norway
Michael Baram, Boston University Law School
Ortwin Renn, Universität Stuttgart

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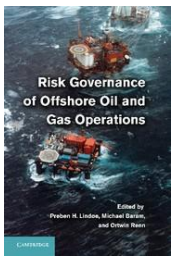

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