Regulation under Uncertainty: The Co-evolution of Industry and Regulation in the Norwegian Offshore Industry

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When ground-level actors co-produce potentially catastrophic uncertainty, the rational response

- Of (capable) actors is to make corrigible plans reflecting best current understanding applied to local circumstance; and to
- Improve understanding by joint investigation, such as by pooling experience and responses in event notification systems
- Lean production as a master example
The regulator’s response is to

• Establish and enforce the obligation to make and improve these plans,
• Providing the infrastructure for doing so when collective action problems limit the ability of the regulated entities to provide it themselves, and
• Setting and resetting criteria of acceptable performance
• INPO, FAAA, FSMA, FAA “voluntary” programs
The court’s response is to

• Hold the regulator accountable for establishing and improving the administration of the system of initial plans and correction through investigation and event notification.

• Courts don’t evaluate the cogency of administrators’ reasoning, but assess their capacity to organize joint efforts to produce successively better understandings of dangers. (Natural Res. Def. Council, Inc. v. U.S. Envtl. Prot. Agency, 655 F.2d 318, )

• (agency failure to assure identification of root causes of recurrent problems, as recently the case at GM and Toyota, is prima facia evidence of ((meta-))regulatory breakdown)
Contrast with the US mainstream view

• The claim that under uncertainty regulators and regulated entities (often) have joint interests in exploring catastrophe-reducing possibilities is at odds with the mainstream view, which holds
  – That information asymmetries always favor regulated entities in bargaining with oversight authorities
  – That such advantages are augmented by the likelihood of outright capture
  – And the debilitating effects of bureaucratic organization of public-sector recruitment
• Which together suggest that…
Regulatory oversight is useless, especially in the face of catastrophe

- The effective alternative—to the extent there is one—is a regime combining
  - Strict liability for the private actors and
  - Insurance (though calculations of premiums is vexed because of the power-law distribution of losses in many kinds of catastrophes)
  - (See Zeckhauser, Bennear for discussion and application to offshore drilling)
Norwegian NCS as a test case

• Conforms to US prescription for effective regulation
  – Strict liability
  – Independent, capable regulator
  – Under “internal control” principle responsibility for safe operation is with the private actors.

• The PSA limits itself to
  – Setting functional requirements rather than mandating specific solutions
  – “acknowledging consent” (AOC) to operate, rather than issuing a permit
  – inspecting operators, not dictating remedial action
The limits of the PSA

- No catastrophes since the Alexander L. Kielland semi-submersible capsized in 1980.
- But two near misses
  - Snorre A platform, November, 2004
  - Gullfaks C, May 2010, almost exactly a month after Deepwater Horizon. In both cases gas from the reservoir rose to the platform during cementing of the well.
- Both near-misses traced back to similar and deep-seated breakdowns in information management—incapacity to revise plans—confirmed by periodic surges in small hydrocarbon leaks
- Regulatory admonition only makes things worse—demands for response further overburden strained organizations
Response—the emergence of an event notification system

- Norwegian Oil and Gas—industry association—begins to organize fora for information pooling of out-of-control incidents and responses in drilling, well integrity, hydrocarbon leaks—eventually the whole life cycle of the well.

- Regulator “observes” and increasingly adopts emerging standards as regulations.

- The updating mechanisms is becoming the “rule making” apparatus.
Efficiency and Safety appear to be compliments

- Norwegian experience suggests that same kinds of information management deficits that lead to dangerous, out of control sequences lead to inefficiency—longer times for routine tasks, reduced capacity for absorption of new technology.

- New firms of inter-firm cooperation—rig-sharing consortia-- increase efficiency in vertically disintegrated production while enhancing safety.
In sum:

• First order actors facing potentially catastrophic uncertainty don’t satisfice, they make provisional plans and pool efforts to improve understanding, not least by making (some) tacit knowledge explicit and revising it in the light of circumstance.
• Regulators are beginning to insist on, support and learn from this response
• Courts can and should accordingly interpret the regulator’s responsibility for reason giving as a requirement to foster the systematic capacity of ground level actors to produce and put to effective use the information relevant to managing uncertainty.