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OFFSHORE SAFETY AND ENVIRONMENTAL REGIMES: A POST-MACONDO COMPARATIVE ANALYSIS OF THE UNITED STATES AND THE UNITED KINGDOM

Jeffery Ray*

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ABSTRACT

This paper analyzes selected offshore environmental and safety laws originating from both the United States and the United Kingdom. More specifically, this paper bifurcates the two national regimes, as much as possible, into two separate chapters whilst simultaneously examining relevant legal alterations stemming from the Deepwater Horizon, or Macondo, incident.

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United States environmental laws are reviewed and analyzed first. United States regulatory issues based on engineering concerns and the safety regime are analyzed in the second half of the United States Chapter. The analysis therein questions whether the United States truly dealt with Macondo issues, or whether the issues were effectively tabled. The current state of the United States regime indicates that it is either in a transitional phase or it has failed to implement key measures which effectively utilize the post-Macondo regulations.

The United Kingdom's offshore safety and environmental legislation and regulations are first reviewed prior to a discussion on changes in the United Kingdom regime that are attributable to the Macondo incident. The question of whether the United Kingdom is actively learning or rather playing the proverbial dog and pony show may be dramatic as a statement, but is nonetheless keenly to the point. A type of tongue-in-cheek acknowledgement that the United Kingdom regime is fit for purpose, whilst simultaneously ordering large investigations seems contradictory in nature and is one form of issue that is addressed in the United Kingdom analysis.

The importance of revisiting issues from the Macondo incident could be argued as self-explanatory given: 1) the dynamic nature of deep water exploration and 2) the need to search deeper on the continental shelf in order to meet growing energy needs. However, whilst this paper was being researched and written, a gas blowout occurred on the United States continental shelf. Whilst the reason behind the blowout has not been publicly identified, it stands as a current reminder that the dynamic nature of offshore oil and gas requires continued study and regulatory refinement in order to keep pace with an industry that will continue to press into ever changing environments.

I. INTRODUCTION

The United States' and United Kingdom's post-Macondo safety and environmental legal regimes are either deficient or nonresponsive to threats presented in their oversight of deep water drilling environments. This paper focuses on the regulatory changes, or lack thereof, in the national legal regimes of the United States and United Kingdom after the Macondo disaster in the Gulf of Mexico. Most information regarding BP is either presented for background or stated as an example of the holding potential for a regulatory improvement. Safety in this article is focused on process or technical safety instead of personal safety in order to keep the topic narrow.

The Macondo blowout killed eleven people and spilled 4.9 million barrels of oil into the Gulf of Mexico.¹ Another concern exists whereby the

1. NAT'L COMM'N ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING, Report to the President 11, 87 (2011) [hereinafter PRESIDENTIAL COMMISSION].

chemicals used to mitigate the damage of the oil spill predicate environmental damage. Substantial quantities of dispersants were used in efforts to mitigate environmental damage to sensitive ecological areas.² However, the long-term effects of oil spills and the concomitant usage of dispersants were not thoroughly evaluated, thereby remaining scientifically debatable.³ The potential danger of the oil spill and use of dispersants intruding into the food chain was quickly realized and the unbridled use of dispersants was curtailed.⁴

An analysis of the substantive regulatory changes in a post-Macondo regime benefits the interests of both the United States' and United Kingdom's energy regimes. The relevance and importance of this article to the United States can be shown by the continuing problems the United States seems to have in the Gulf of Mexico. At the time of writing this article, the best demonstration of issues in the United States' offshore regime is the blowout, subsequent fire, and continuing flow of hydrocarbons from the South Timbalier 220 block in the Gulf of Mexico.⁵ The BSEE indicated a relief well is tentatively scheduled to be in place in September 2013.⁶ Further, a comparative analysis allows an interesting critique that could reveal regulatory shortcomings or best practices from either regime. Regulatory successes and failures have provided substantive adaptive reforms designed to mitigate safety and environmental concerns in offshore oil and gas development. As the industry moves into deeper and more dynamic waters, the lessons of the Macondo incident may prove vital.

The United States' regime stands to potentially benefit from an analysis of another mature offshore legal regime, in this case, the United Kingdom. The United Kingdom possesses experience with amending regulations in light of previous offshore disasters.⁷ The United Kingdom similarly benefits through a comparative analysis of a mature regime that is in the process of learning from a catastrophe. As stated earlier, this article presents an analysis of each regime and then follows up with suggestions to maximize the impact and relevance to the industry and regulators.

This paper is a combination of socio-legal research and comparative analysis. The technical merits of offshore safety and environmental concerns create an opportunity to utilize multidisciplinary research. The oil

2. *Id.* at 143–45.

3. *See id.* at 144.

4. *See id.* at 160; *See also* Christopher M. Iaquinto, *A Silent Spring in Deep Water?: Proposing Front-End Regulation of Dispersants After the Deepwater Horizon Disaster*, 39 B.C. ENVTL. AFF. L. REV. 419, 447–48 (2012).

5. Press Release, Bureau of Safety and Environmental Enforcement, BSEE and Coast Guard Respond to Well Control Event in Gulf of Mexico, 55 Miles Offshore Louisiana (July 23, 2013), <http://www.bsee.gov/bsee-newsroom/press-releases/2013/press07242013/>.

6. Press Release, Bureau of Safety and Environmental Enforcement, Visual Observation Inside South Timbalier 220 Well (Aug. 8, 2013), <http://www.bsee.gov/bsee-newsroom/press-releases/2013/press08082013z/>.

7. *See generally* MINISTRY OF POWER, REPORT OF THE INQUIRY INTO THE CAUSES OF THE ACCIDENT TO THE DRILLING RIG SEA GEM (1967) [hereinafter SEA GEM INQUIRY]; HON. WILLIAM CULLEN, THE PUBLIC INQUIRY INTO THE PIPER ALPHA DISASTER (1990) [hereinafter Cullen Report].

and gas industry, operating on a multi-national level, sets up a prime opportunity for one state to learn from another's regulatory regime.⁸ However, it must be acknowledged that each state must tailor its regime to meet specific domestic needs. This article is intended to address the narrow issues highlighted by the Macondo disaster, and to proffer regulatory suggestions if appropriate. Further research into this area of law could be useful.

Part one outlines the topic itself, the article's importance, limitations of the issue, and the process or methodology by which the discussion will be derived. Part two provides a background from which the Macondo incident occurred by introducing the various barriers that failed. Parts three and four provide an overview of the general state laws, and then proceed to a substantive analysis of the United States and United Kingdom regimes that could conceivably address the failures resulting in the Macondo disaster. Part five provides conclusions and recommendations over this issue.

II. BACKGROUND

On April 20, 2010, an unfortunate series of events unfolded leading to a loss of well control and, eventually, the Macondo disaster.⁹ The initial explosion of the Deepwater Horizon killed eleven people, culminating with the rig itself sinking two days later.¹⁰ Before the blowout could be capped in the coming months, nearly five million barrels of oil spilled into the Gulf of Mexico, creating an environmental disaster.¹¹ Emeritus Professor Andrew Hopkins of the Australian National University has written extensively in the area of industrial safety, specifically safety regarding the oil and gas industry. Hopkins aptly elucidated the complex and sequential nature of failures in multiple barriers or "defences in depth" that created a catastrophic event—a massive high-pressure blowout.¹² Hopkins' analysis was, primarily, an engineer-centric view with nominal consideration for the defenses in depth of the regulatory regimes.

This paper acknowledges the corporate responsibility for safety and the concomitant governmental responsibility to ensure that the corporate actors provide the requisite safety programs, procedures, and culture to operate in a safe and environmentally sustainable manner. However, this paper does not assert that BP, or any other company, intentionally usurped its own safety obligations. Yet, the connection between BP's corporate culture and the remainder of the defenses that failed are herein noted. For

8. See MIKE McCONVILLE ET AL., *RESEARCH METHODS FOR LAW* 87–89 (Mike McConville & Wing Hong Chui eds., Edinburgh University Press 2012).

9. PRESIDENTIAL COMMISSION, *supra* note 1, at 55.

10. *Id.*

11. *Id.* at 87.

12. See ANDREW HOPKINS, *DISASTROUS DECISIONS: THE HUMAN AND ORGANISATIONAL CAUSES OF THE GULF OF MEXICO BLOWOUT* 53–72 (CCH Australia Unlimited 2012).

example, Bergin portrayed BP's corporate culture as one hell-bent on cost cutting regardless of significant safety issues.¹³

Regulatory defenses that are relevant to Hopkins' assertions will be analyzed as well as other defenses achievable via regulation. The cement job, intended to temporarily abandon the well until a permanent production rig was in place, was a physical barrier that failed and was attributed to a combination of poor decisions.¹⁴ The cement evaluation log, according to Hopkins, was a safety barrier that failed because it was not utilized.¹⁵ The negative pressure test also failed to stop the blowout from occurring.¹⁶ Failure of proper monitoring was another barrier that did not stop the disaster.¹⁷ The crew's failure to respond to signs suggesting inconsistencies of positive well control in an expeditious manner resulted in another barrier that failed.¹⁸ On the rig, the decision to not divert the spewing hydrocarbons and the very design of the rig, in failing to fireproof the engine room, were overlooked barriers and missed opportunities that failed to prevent the disaster.¹⁹ The failure of the regulator is an equally significant contribution to that of the engineering issues above.²⁰

III. UNITED STATES REGIME

Hydrocarbons have been exploited from the offshore waters of the United States, namely the Gulf of Mexico, since 1938.²¹ Realizing the importance of offshore resources, President Truman claimed federal authority over resources present on the United States Continental Shelf (USCS).²² Strife between the states and federal government within the United States brought about the Submerged Lands Act (SLA),²³ which was a compromise that validated previous leases and assigned waters within the first three nautical miles of their respective states, excluding Texas and Florida, which were given larger tracts due to historical claims.²⁴

Internationally, the 1958 United Nations Convention on the Continental Shelf (UNCs) soon bolstered the Truman Proclamation's assertion of

13. See TOM BERGIN, *SPILLS AND SPIN: THE INSIDE STORY OF BP* (Random House Business Books 2011); see also Rebecca M. Bratspies, *A Regulatory Wake-up Call: Lessons From BP's Deepwater Horizon Disaster*, 5 GOLDEN GATE U. ENVTL. L. J. 7, 21, 60 (2011).

14. See HOPKINS, *supra* note 12, at 55; see also NATIONAL ACADEMY OF ENGINEERING & NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, *BLOWOUT: MACONDO WELL DEEPWATER HORIZON 25-39* (National Academies Press, Washington D.C. 2012) [hereinafter NAE].

15. HOPKINS, *supra* note 12, at 56.

16. *Id.*

17. *Id.* at 56-57.

18. *Id.* at 7.

19. HOPKINS, *supra* note 12, at 62-64.

20. See James E. Darling, *Addendum: The Story of the BP Oil Spill*, 3 ELON L. REV. 254, 271 (2011-2012).

21. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *The History of Offshore Oil and Gas in the United States, Long Version* (Staff Working Paper No. 22, 2012) [hereinafter *History of Offshore Oil*].

22. See Proclamation No. 2667, 10 Fed. Reg. 12303 (Oct. 2, 1945).

23. See 43 U.S.C. §§ 1301-1315 (2012).

24. 43 U.S.C. §§ 1311-1312 (2012).

national claims to offshore resources.²⁵ The 1982 United Nations Convention on the Law of the Sea (UNCLOS) is particularly important for establishing the 200-mile exclusive economic zone (EEZ) by which each state has authority over the natural resources contained within.²⁶ Ian Brownlie, a renowned authority on public international law, is keen to address the UNCLOS as creating duties of states to “respect . . . the protection and conservation of the marine environment.”²⁷

The offshore hydrocarbon industry grew exponentially in the United States. The industry pushed the technological limits by venturing further out onto the continental shelf into incrementally deeper waters.²⁸ The hydrocarbon industry advanced faster and farther than general industry safety practices or than governmental regulation could keep pace with; prompting legislative attempts to control the industry after each major incident.²⁹

By the time of the Macondo incident, the United States implemented a plethora of regulations to govern the offshore hydrocarbon industry, but the regulatory agencies had a dearth understanding of technical knowledge³⁰ and a severe lack of resources to provide a meaningful contribution to offshore safety or environmental oversight.³¹ Other legal instruments that were designed to regulate offshore oil and gas exploration and production were the: National Environmental Policy Act (NEPA),³² Oil Pollution Act of 1990 (OPA),³³ Outer Continental Shelf Lands Act (OCSLA),³⁴ Coastal Zone Management Act (CZMA),³⁵ Magnuson-Stevens Fishery Conservation and Management Act,³⁶ Endangered Species Act (ESA),³⁷ Marine Mammal Protection Act (MMPA),³⁸ and the National Marine Sanctuaries Act (NMSA).³⁹ The Presidential Commission identified several instances of regulatory failure, many of which are discussed within this article.

After the Macondo disaster, the regulator, Mineral Management Service (MMS), was reorganized into the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) and the Office of Natural

25. United Nations Convention on the Continental Shelf, Apr. 29, 1958, 499 U.N.T.S. 311 (entered into force June 10, 1994) [hereinafter UNCS].

26. United States Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force Nov. 16, 1994).

27. IAN BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 241 (Oxford Univ. Press ed., 7th ed. 2008).

28. *History of Offshore Oil*, *supra* note 21, at 7–13.

29. *Id.* at 13–17.

30. *See* NAE, *supra* note 14, at 113.

31. *See* PRESIDENTIAL COMMISSION, *supra* note 1, at 67.

32. *See* 42 U.S.C. §§ 4321–4370 (2012).

33. 33 U.S.C. §§ 2701–2762 (2012).

34. 43 U.S.C. §§ 1331–1356 (2012).

35. 16 U.S.C. §§ 1451–1466 (2012).

36. 16 U.S.C. §§ 1801–1869 (2012).

37. 16 U.S.C. §§ 1531–1544 (2012).

38. 16 U.S.C. §§ 1361–1407 (2012).

39. 16 U.S.C. §§ 1431–1445 (2012).

Resources Revenue (ONRR). BOEMRE was then dissolved to form the Bureau of Ocean Energy Management (BOEM) and the Bureau of Safety and Environmental Enforcement (BSEE). The ONRR, BOEM and BSEE are all under the Department of Interior (DOI). The ONRR covers the economic interests in United States and Indian energy resources—including offshore oil and gas.⁴⁰ BOEM covers, *inter alia*, planning, NEPA analysis, and environmental studies.⁴¹ The BSEE covers, *inter alia*, oil spill research, inspections, oil spill response, training, and environmental compliance.⁴²

A. *Selected Environmental Laws*

Environmental legislation prior to the Macondo disaster theoretically provided a multi-layered approach to determine the environmental impacts of offshore activities and providing a consultation process.⁴³ However, MMS practice was to utilize a work-around or even to ignore legislative environmental laws.⁴⁴ This breakdown in the regulator created a vacuum that was filled by cost-driven management systems. Such was the case of BP and arguably the industry in general.⁴⁵ The Presidential Commission addressed this issue and admitted that there is nothing inherently wrong with a cost-driven structure.⁴⁶ For corporate actors in the deep waters of the Gulf of Mexico, a cost-driven problem surfaces where there is inadequate risk awareness or safety protocols to processes that are inherently inundated with risk.⁴⁷ An interesting point about the Presidential Commission's analysis, regarding the lack of risk awareness, is that it is equally as relevant for the regulator as well. The MMS's use of legislative loopholes could be one measure by which the regulator unwittingly sabotaged its own risk awareness mechanisms.

1. OPA

Underestimations of potential damages from offshore oil spills left the OPA with arbitrary financial limitations that quickly proved insufficient to

40. BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT, THE UNITED STATES DEPARTMENT OF INTERIOR, BUDGET JUSTIFICATIONS AND PERFORMANCE INFORMATION, FISCAL YEAR 2014, 4 (2013), available at <http://www.doi.gov/budget/appropriations/index.cfm> [hereinafter BSEE BUDGET 2014]; see also BUREAU OF OCEAN ENERGY MANAGEMENT, THE UNITED STATES DEPARTMENT OF INTERIOR, BUDGET JUSTIFICATIONS AND PERFORMANCE INFORMATION, FISCAL YEAR 2014, 3–5 [hereinafter BOEM BUDGET 2014].

41. BOEM BUDGET 2014, *supra* note 40, at 3–5.

42. BSEE BUDGET 2014, *supra* note 40, at 3–5.

43. See PRESIDENTIAL COMMISSION, *supra* note 1, at 84.

44. See *id.* at 84–85.

45. See *id.* at 122–26.

46. *Id.* at 125.

47. *Id.* at 122.

cover the damage from the Macondo disaster.⁴⁸ The Presidential Commission recommended that “Congress should significantly increase the liability cap” to offshore facilities.⁴⁹ BP and other major industry players seem to have given substandard efforts in constructing an emergency response plan, under the OPA.⁵⁰ An explicit example is the non-existent, at least in the Gulf of Mexico, sensitive marine life that BP and other major industry players claimed they sought to protect under their respective plans.⁵¹

2. NEPA

NEPA is a powerful environmental tool within the United States regime that was forged in the wake of the Santa Barbara Channel oil spill.⁵² A duty rests within the federal government to provide an environmental impact statement for all “major Federal actions significantly affecting the quality of the human environment.”⁵³ Pettit and Newman correctly pointed out that in certain circumstances, a simplified environmental review, referred to as an environmental assessment, might be used under NEPA.⁵⁴ Further, the possibility exists to utilize a “categorical exclusion” (CE) if no significant impact is likely to occur in the endeavor.⁵⁵ The CE was used liberally by the MMS prior to the Macondo incident.⁵⁶ However, the Director of BOEMRE issued an August 2010 memo that CEs in the Gulf of Mexico were temporarily off limits until a review of department use of CEs could be completed.⁵⁷ Interestingly, the DOI also has temporal constraints that essentially require it within thirty days to make a decision whether to allow an offshore exploration endeavor through OCSLA.⁵⁸ OCSLA is also the vessel that the BSEE would use to promulgate regulations to address shortcomings in the regulatory system, which will be analyzed below.⁵⁹

48. *See id.* at 83–85.

49. *Id.* at 284.

50. 30 C.F.R. § 254.23 (2011).

51. *See* PRESIDENTIAL COMMISSION, *supra* note 1, at 84.

52. *See id.* at 28.

53. 42 U.S.C. § 4332(2)(c) (2012); *see also* 40 C.F.R. § 1501.2 (2010), *and* 40 C.F.R. § 1502.5 (2010).

54. David Pettit & David Newman, *Federal Public Law and the Future of Oil and Gas Drilling on the Outer Continental Shelf*, 17 ROGER WILLIAMS U. L. REV. 184, 190 (2012).

55. 40 C.F.R. § 1500.4(p) (2010).

56. PRESIDENTIAL COMMISSION, *supra* note 1, at 81–82.

57. Memorandum from Michael Bromwich, Dir., Bureau of Ocean Energy Mgmt., Enforcement & Regulation on Use of Categorical Exclusions in Gulf of Mexico Region, to Walter Cruickshank, Deputy Dir., Bureau of Ocean Energy Mgmt., Enforcement and Regulation & Robert LaBelle, Acting Assoc. Dir. For Offshore Energy & Minerals Mgmt. (Aug. 16, 2010), *available at* <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=42011>.

58. *See* 43 U.S.C. § 1340(c)(1) (2012).

59. *See* 43 U.S.C. § 1334 (2012); *see also*, BUREAU OF SAFETY AND ENVTL ENFORCEMENT, OIL AND GAS SULPHUR OPERATIONS ON THE OUTER CONTINENTAL SHELF—INCREASED SAFETY MEASURES FOR ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF 6 (Docket ID: BSEE-2012-0002, 2002) [hereinafter Final Rule].

3. OCSLA

The OCSLA is the legislative device used in the leasing process, which is carried out in stages. First, a five-year lease program is established.⁶⁰ Then, lease sales are held.⁶¹ Next is the exploration phase of the leased acreage.⁶² The fourth phase is development and production.⁶³ The final phase is that the captured oil and gas is sold.⁶⁴

There are key provisions in OCSLA that provide safety and environmental safeguards. Exploratory drilling may not begin until an environmental plan (EP) has been provided.⁶⁵ The DOI Secretary must prevent exploration if the activity would be “unduly harmful to aquatic life in the area” or “result in pollution” or if it would “create hazardous or unsafe conditions” among other issues.⁶⁶ On their face, these provisions create a positive outlook and could work hand-in-hand with a type of safety case regime. However, an Achilles heel of this otherwise fine piece of legislature is that concomitant regulations require a decision, within thirty days, whether to approve, modify, or disapprove the EP once all needed information is collected.⁶⁷ The thirty-day time constraint effectively hamstringing the DOI with regard to the depth in which it can evaluate an environmental assessment. A bill was introduced within the United States Congress to, *inter alia*, alleviate the temporal constraint by extending the thirty-day requirement to ninety days with the possibility of an additional sixty days; moreover, the bill prohibits CEs.⁶⁸ Only time will tell whether the bill gains enough political support to become law. The time extension, if enacted into law, should help. However, assuming the bill does become law, even more time may be necessary if the SEMS program is ever to be fully utilized by requiring the regulator to approve the operator’s SEMS plan prior to allowing the operator to drill.

B. Engineering Problems and Regulatory Concerns

Hopkins delivered an eloquent elucidation of the Macondo disaster in the form of an engineering analysis.⁶⁹ Hopkins’ analysis includes substantive reference to the Presidential Commission and several group investigations, reports, and studies. The interdisciplinary approach of this section should be self-evident.

60. 43 U.S.C. § 1344(a) (2012).

61. 43 U.S.C. § 1337(a)(1) (2012).

62. 43 U.S.C. § 1340(a)(1) (2012).

63. 43 U.S.C. § 1351(a)(1) (2012).

64. 43 U.S.C. § 1353(a) (2012).

65. 43 U.S.C. § 1340(c)(1) (2012).

66. 43 U.S.C. § 1340(g)(1)–(3) (2012).

67. 30 C.F.R. § 250.231(a) (2009); *see also*, 30 C.F.R. § 250.233 (2009).

68. H.R. 1820, 113th Cong. § 8 (2013).

69. *See generally* HOPKINS, *supra* note 12.

1. Macondo Issues

Hopkins gave an in-depth review of the different ways the cement barrier could have failed.⁷⁰ The decision-making impediment of an initial declaration of success was highlighted as creating a seed of poor-decision making or even a justification of potential failures.⁷¹ Decisions based on commercial risk factors were next in the analysis. Hopkins acknowledged that some decisions were taken while relying upon other defenses in order to mitigate potential harm.⁷² Making a decision based upon the assumption that other defenses may not hold could have provided a more reliable analysis.

A conflict of interest was an obvious thorn in the regulator's side during the Macondo disaster. Congress could have created a body to oversee health, safety, and environmental concerns in offshore oil and gas. Instead, the DOI separated the departments already under it, renamed them, and presented it as a remedy to the conflict of interest. However, the revenue or licensing division and the safety and environmental division are still under the same leadership. Yet it remains a valid question as to whether the revenue department and the safety/environmental department both reporting to the secretary of the DOI is a solid solution or not. On the other hand, BOEM has developed a recusal form that enables BOEM employees to document their family and friends in the industry in order to be potentially recused if necessary.⁷³

Further potential failures were created from decisions regarding the installation of the subsea Macondo well itself. The potential for instability in the well control was increased substantially by using foam cement,⁷⁴ specifically, the decision to move forward with foam cement after a test showed instability in the slurry. Another test that was not promptly distributed revealed a higher degree of failure, and perhaps these oversights are exemplary of the commercially driven risk assessments as opposed to process or system safety based analysis.⁷⁵ The Presidential Commission noted several other decisions that tend to solidify a view that BP's decision-making process was not geared toward process safety. Briefly, these decisions include: the use of long-string casing instead of a liner;⁷⁶ the amount of centralizers used despite data indicating potential for the loss of well control;⁷⁷ the decision to use foam cement, which created a higher potential for

70. *Id.* at 13–51.

71. *Id.* at 15.

72. *Id.* at 17.

73. Memorandum from Michael R. Bromwich, Dir., Bureau of Ocean Mgmt. Regulation & Enforcement on Policy Regarding Interference with the Performance of Official & Potential Conflicts of Interest to All BOMRE District Employees (2010), available at http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/Reforms/Recusalmemo0830.pdf.

74. See PRESIDENTIAL COMMISSION, *supra* note 1, at 100–02, 117–18; see also HOPKINS, *supra* note 12, at 22–23.

75. See PRESIDENTIAL COMMISSION, *supra* note 1, at 101–02; see also HOPKINS, *supra* note 12, at 22–23, 76.

76. PRESIDENTIAL COMMISSION, *supra* note 1, at 115; see also NAE, *supra* note 14, at 43.

77. PRESIDENTIAL COMMISSION, *supra* note 1, at 115–16.

channeling and general lack of compressive strength;⁷⁸ the decision to ignore “anomalous pressure readings”;⁷⁹ the decision to forgo the cement evaluation log;⁸⁰ the BP and Transocean decision to not formally train relevant employees on negative pressure tests and the concomitant regulator’s decision to not provide relevant standards or regulations;⁸¹ the decision for BP to seat the cement plug 3,300 feet below the mud line whilst also deciding to replace the drilling mud with seawater, which is a lighter weight.⁸²

2. Regulatory Response

The United States regulator, BOEMRE (now BOEM and BSEE), used OCSLA to address critical influencers of the Macondo disaster, such as:

casing installation; cementing requirements; independent third party verification of blind-shear ram capability. . .[and] compatibility; casing and cementing integrity tests; secondary BOP intervention; function testing for subsea secondary BOP intervention; documentation for BOP inspections and maintenance; Registered Professional [must] certify casing and cementing requirements; and [includes mandatory] well control training to include deepwater operations.⁸³

The “questionable” decision-making processes surrounding the cement failures and well design have been subject to some regulatory attention.⁸⁴ Hopkins discussed well integrity tests and pointed out that an integrity test was performed shortly before gas pressure built up to a critical level and resulted in a blowout.⁸⁵ The lack of an independent third party to examine the well in order to certify well or cement integrity has been noted as a measure that may have mitigated effects of later decisions or prevented the disaster *en totem*.⁸⁶ Hopkins noted the process of consensus decision-making, or “groupthink,” on the Macondo platform to be a method that tends to “absolve individuals of responsibility,” further suggesting that responsibility should lay with one person.⁸⁷ The concept of groupthink purportedly inhibited the decision-making process of BP and exacerbated the lack of an independent verification of the stability of the casing and cement jobs.

78. NAE, *supra* note 14, at 33; *see also* HOPKINS, *supra* note 12, at 23–25.

79. PRESIDENTIAL COMMISSION, *supra* note 1, at 116.

80. *Id.* at 117.

81. *Id.* at 119.

82. *Id.* at 119–20.

83. Final Rule, *supra* note 59, at 3.

84. NAE, *supra* note 14, at 27.

85. *Id.* at 37.

86. *See* PRESIDENTIAL COMMISSION, *supra* note 1, at 122.

87. HOPKINS, *supra* note 12, at 47–51.

Operators are currently required to use “best available and safest drilling technology” in order to mitigate potential for the well to be penetrated by hydrocarbons or kicks.⁸⁸ In applying for a permit to drill (APD), the operator must provide details of the hole, casing setting depths, assumptions, type and amount of cement, and ability to isolate flow zones. Moreover, the operator must do so in a statement that explains how it is comparable to the best practices of the American Petroleum Institute’s standards.⁸⁹ This, however, is only useful if competent regulators are employed to understand, critically evaluate, and scrutinize proposals. United States Regulators had a lack of sufficiently educated or experienced personnel to adequately examine, question, and refute, if necessary, assertions made from industry engineers.⁹⁰ This was evidenced through the lack of professional cognizance displayed by failing to recognize the danger present by the narrow margins of safety in drilling the Macondo well.⁹¹

Separate from the APD, operators now have a duty to ensure their casing and cement programs control pressures and fluids; prevent flow of fluids into offshore waters; “prevent communication between separate hydrocarbon-bearing strata[;]” “protect freshwater aquifers from contamination[;]” support “unconsolidated sediments[;]” and to have a United States registered professional engineer to sign a certification that the casing and cementing design is “appropriate for the purpose.”⁹² Operators must also install two independent barriers to prevent flow of hydrocarbons should the cement barrier fail.⁹³ Hopkins noted that the recent United States regulations made professional engineers responsible for their decisions and created a system of independent verification that he believes has remedied the issue of a lack of accountability⁹⁴—an assertion that is likely to be true for future drilling operations.

The United States regulator does, at first glance, appear to directly address many of the well control concerns posed by the Presidential Commission, the National Academy of Engineering, and Professor Hopkins’ book. However, many of the improvements mentioned thus far could be considered as a continuance of a tick-the-box method, except now there is a professional engineer that must be utilized to certify that the correct boxes have been ticked.⁹⁵ Perhaps this method, combined with the Safety and Environmental Management System (SEMS) discussed later in this chapter, was intended cumulatively to have bolstered this check on well control past the tick-the-box mentality. As Hopkins aptly pointed out, a

88. 30 C.F.R. § 250.401(a) (2011).

89. 30 C.F.R. § 250.415(a)–(f) (2012).

90. NAE, *supra* note 14, at 113.

91. *Id.* .

92. 30 C.F.R. § 250.420(a)(1)–(6) (2012).

93. 30 C.F.R. § 250.420(b)(3) (2012).

94. HOPKINS, *supra* note 12, at 50.

95. See 30 C.F.R. § 250.420(a)(1)–(6) (2012).

barrier that is to be used in a defense in depth system should be independent.⁹⁶

Hopkins touched upon the problems of gas diversion and ignition control suggesting that it was poor planning to fail in making the engine room explosion proof.⁹⁷ The United States regulator seems to have dealt with potential structural problems and testing of the diverter system.⁹⁸ Attention also seems to be paid to concerns presented by Hopkins in regard to the reduction of the potential for explosion frequency by requiring the crew to divert the gas overboard.⁹⁹ The diverter must now direct gas, and associated materials, “away from facilities and personnel.”¹⁰⁰ This may not be necessary in every circumstance. However, the cost/benefit analysis here seems to be one of potential minor environmental impact versus the potential for life saving through preventative measures or a precautionary approach.

A large emphasis has been placed on the blowout preventer. The National Academy of Engineering, for example, devoted the largest chapter of its book, regarding lessons learned on offshore drilling safety, to blowout preventers.¹⁰¹ The utilization of a blowout preventer has seen attention by the regulator as well. The blowout preventer must now be able to shear the drill pipe at the maximum anticipated surface pressure, including the work-string and tubing.¹⁰² A third party must also verify pipe-shearing calculations.¹⁰³ The blowout preventer and lower marine riser package (LMRP) is now to be brought to the surface and undergo a thorough inspection to ensure it is fit for purpose.¹⁰⁴ The third party must also be objectively qualified as a licensed professional engineer, registered professional engineer, or member of a technical classification society.¹⁰⁵

Hopkins poignantly elucidated the lack of a viable blowout response plan or an oil spill response plan as being the product of a “box-ticking” mentality that had developed and led to unrealistic propositions being documented in order to satisfy the regulator.¹⁰⁶ This is not a burden that should solely be placed upon BP, as other members of the industry have submitted similar response plans with similar unrealistic capabilities and incredibly inaccurate content.¹⁰⁷

There has been some shift toward a performance-based regulation that could be intended to remedy this mentality. However, it is not entirely convincing that there is a government-led initiative to change the safety

96. HOPKINS, *supra* note 12, at 53.

97. *Id.* at 62–65.

98. See 30 C.F.R. § 250.431–433 (2011).

99. HOPKINS, *supra* note 12, at 62–64.

100. 30 C.F.R. § 250.430 (2011).

101. NAE, *supra* note 14, at 34–56.

102. 30 C.F.R. § 250.416(e) (2012).

103. *Id.*

104. § 250.416(f).

105. § 250.416(g)(1).

106. HOPKINS, *supra* note 12, at 65–66.

107. PRESIDENTIAL COMMISSION, *supra* note 1, at 133.

culture. The funding for the BOEM or the BSEE has not appeared to be impressive,¹⁰⁸ nor does it seem capable of supporting the type of comprehensive supervision necessary to usher in a change in the way offshore business has been done for many years. Through a general statement, the United States Government has acknowledged that it has conscientiously constrained financial support due to the “state of the economy and tight fiscal constraints.”¹⁰⁹ The great irony of the United States regulatory regime is that it is the overseer of one of the most lucrative tax income bases for the United States Government,¹¹⁰ yet the regulator has been dying a slow death from underfunding and may potentially be drifting into a realm of indifference.¹¹¹

Perhaps it would be appropriate for the United States Congress to ensure that the BOEM and the BSEE do not enter the same cost-driven management that BP was vehemently criticized for. Perhaps this could be accomplished by ensuring that adequate funding is provided in order to enable comprehensive supervision of offshore programs. To put it another way, view the cost of regulation and cost of environmental mitigation versus the cost of diminished revenue. For an industry that generates extensive revenue, even perhaps an extensive funding or appropriation increase would not be significant to the overall budget given the sheer amount of revenue produced. When compared to increasing well control incidents or spill frequencies in recent history, the need for increased funding appropriation becomes clearer. In 2010, “major well control spills or incidents . . . [were up] over 60% from 2006.”¹¹² Deeper water and more dynamic conditions require competent staff and fair funding to supervise operational and environmental safety properly.

3. SEMS

The Presidential Commission’s pointing to environmental laws as being “ignored” is a mind-boggling illustration of a failure in the safety culture or a lack thereof.¹¹³ Following the Macondo disaster, the idea of progressive regulation toward a performance-based regulatory response was gaining ground. The flagship change of the United States regime appears to be the development and implementation of the SEMS. However, as with any changing regime, it seems to be a work in progress, or a gradual

108. BOEM BUDGET 2014, *supra* note 40, at 3; *see also* BSEE BUDGET 2014, *supra* note 40, at 3; *cf.* BUREAU OF OCEAN MANAGEMENT, BUDGET JUSTIFICATIONS: AND PERFORMANCE INFORMATION FISCAL YEAR 2013 [hereinafter BOEM BUDGET 2013]; *see also* BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT, BUDGET JUSTIFICATIONS: AND PERFORMANCE INFORMATION FISCAL YEAR 2013, 3 [hereinafter BSEE BUDGET 2013]; *cf.* BUREAU OF OCEAN MANAGEMENT, BUDGET JUSTIFICATIONS: AND PERFORMANCE INFORMATION FISCAL YEAR 2012; Hari M. Osofsky, *Multidimensional Governance and the BP Deepwater Horizon Oil Spill*, 63 FLA. L. REV. 1077, 1102 (2011).

109. BOEM BUDGET 2013, *supra* note 108, at 3.

110. *See* PRESIDENTIAL COMMISSION, *supra* note 1, at 63.

111. *See* NAE, *supra* note 14, at 72–76, 112–13.

112. IAN SUTTON, OFFSHORE SAFETY MANAGEMENT: IMPLEMENTING A SEMS PROGRAM 6 (Elsevier 2012).

113. *See* PRESIDENTIAL COMMISSION, *supra* note 1, at 85.

shift. To best understand the current regime, a brief look at events that have changed other regimes and led to similar regime changes is appropriate.

The Ekofisk blowout in Norway killed 123 people, and the Piper Alpha disaster in the United Kingdom killed 167 rig workers and two rescuers.¹¹⁴ These disasters altered the way Norway and the United Kingdom regulated their respective oil and gas regimes. The safety case regime developed in the United Kingdom, and a similar regime developed in Norway.¹¹⁵ Norway and the United Kingdom began the novel approach of shifting the burden of responsibility to the operators and requiring the operators to prove that each endeavor was within an acceptable margin of safety.¹¹⁶ The Presidential Commission pointed out that both the Piper Alpha and Ekofisk involved United States oil and gas corporations.¹¹⁷ These examples are uniquely designed or tailored for their domestic purposes. However, a common theme permeates. An onus is placed on the operator to prove the endeavor is within an acceptable margin of safety, and the respective government is supervising and taking a note from Teddy Roosevelt: walk softly and carry a big stick.

The DOI arguably broke with the traditional United States ideology of prescriptive regulation by instituting the SEMS.¹¹⁸ The benefits of moving away from a complete prescriptive or command and control regime have long been realized.¹¹⁹ Now the United States would require a SEMS plan to be developed by the operator. Interestingly enough, the SEMS is not directly proven, or even required to be delivered, to the regulator prior to the operator being allowed to drill.¹²⁰ Instead, the operator must merely complete the plan, keep it on hand, and ensure it is implemented.¹²¹ This could be the sign of a step-by-step alteration in regulation, which is understandable to steer massive regulations similar to a large ship—incrementally. On the other hand, it could be viewed as a magnanimous hole in the regime that could be the result in compromise between budget and safety. Whilst it is important for the operator to ensure that the SEMS is implemented and utilized to the fullest extent practicable, it should be incumbent upon the regulator to decide first if the SEMS is appropriate or risk losing credibility, or worse, control of offshore safety—if it has ever had control.

114. *Id.* at 68–69.

115. *See id.* at 68–72.

116. *Id.* at 69.

117. *Id.*

118. 30 C.F.R. § 250.1900–1929 (2012).

119. Christine Parker & John Braithwaite, *Regulation*, in *THE OXFORD HANDBOOK OF LEGAL STUDIES* 123 (Oxford Univ. Press 2003).

120. *See* HOPKINS, *supra* note 12, at 145.

121. *See* 30 C.F.R. § 250.1902 (2012).

The goal of regulation in offshore oil and gas should not be to create a mentality of tick-the-box; it should be to foster awareness about the circumstances around the work environment and educate workers, corporations, and the regulator on how to achieve the desired outcome—here a profitable and safe endeavor with minimal environmental impact.¹²² In an attempt to achieve that goal, SEMS uses a hybrid of performance-based regulation whilst integrating prescriptive regulation via the incorporation of third party documents to utilize as standards.¹²³ The integration of standards is understandable, perhaps even highly desirable for all involved, given the intrinsic nature of the United States regime and its proclivity toward hard laws or regulations. An attempted remedy to the potential problem of impartiality of the AMERICAN PETROLEUM INSTITUTE was addressed by limiting the incorporation by reference of AMERICAN PETROLEUM INSTITUTE documents to the specific publication, without the ability to accept alterations, and without amendment to regulation.¹²⁴ The National Academy of Engineering suggested that the incorporation of standards should be used for developing a forward thinking, “interactive, and reactive risk management system.”¹²⁵ Further mention was made of the need to use existing regulation and a warning that the standards had to be “updated and revised continually.”¹²⁶ This author is not convinced that utilization of the AMERICAN PETROLEUM INSTITUTE is wise from a conflict of interest position, nor the freezing of a standard without knowing who, how, or when amendments to the standards will be addressed.

The SEMS is a step toward an effective offshore safety regime. Having a framework that requires the operator to critically assess the risk it is about to undertake is a key development. However, as pointed out by Hopkins, there are serious impediments to the current SEMS regime.¹²⁷ The lack of a requirement to at least deliver the SEMS to the regulator may suggest the regulator may be unsure of its competence to adequately review the plan. The historical and current acknowledged under-funding further begs the question of whether the regulator has the ability to obtain, maintain, and retain competent staff to allow proper function of an effective SEMS, should SEMS be fully developed. A formal method for the operator to prove his case, that the operation is within an acceptable margin of safety, is a fundamental step toward making the SEMS effective.¹²⁸ Arguably the key for making a goal-based or performance-based program, such as SEMS, is a general duty of care to be placed upon the operator.¹²⁹

122. Parker & Braithwaite, *supra* note 117, at 129.

123. 30 C.F.R. § 250.1900, 1902 (2012); *see also* 30 C.F.R. § 250.198 (2012).

124. 30 C.F.R. § 250.198(a)(1) (2012).

125. NAE, *supra* note 14, at 120.

126. *Id.* at 120.

127. *See* HOPKINS, *supra* note 12, at 149.

128. *See id.* at 145–46.

129. *Id.* at 148.

Hopkins noted that OSLA does provide a general duty of care to licensees,¹³⁰ to “maintain all places of employment . . . free from recognized hazards to employees.”¹³¹ The duty of care, however, appears to be a dead or unused article. The SEMS, further, should be implemented, reviewed, and enforced by an independent and competent regulator with an appropriate onus placed upon the operators to bear the burdens of their endeavors.

Not all scholars, however, believe that the safety case method is appropriate for the United States.¹³² Professor Steinzor, for example, wrote, “the British safety case system is the wrong choice for America.”¹³³ Steinzor correctly pointed out that, statistically, the occupational or individual worker’s safety in the United States is comparable to that of the United Kingdom.¹³⁴ Steinzor further criticizes the approach of the United Kingdom regulator of including numerical value of human life, and attempts to differentiate United States regulatory customs and culture as viewing this as unacceptable in general, and unacceptably low in practice.¹³⁵ This assertion is diminished in value by Steinzor’s own writing acknowledging that the United States performs the same computation of assigning a value to human life.¹³⁶ Key differences appear to be that the use in the United Kingdom of an assigned value in the final making of regulation is perhaps viewed as bad taste or poor regulatory etiquette, and an assertion that the United Kingdom accepts a higher risk in comparison to the United States regime. Steinzor also pointed out, in a paragraph quip, that secrecy involved in the process of the United Kingdom safety case regime is against a notion of American regulatory customs or norms.¹³⁷ This author suggests that Steinzor’s rationale for objecting to a safety case regime in the United States is more appropriately useful as tools to tailor a safety regime to American needs and culture. To put it another way, as Paterson suggests, the United States could choose to use “selective borrowing of some of the regulatory ideas” from the United Kingdom, but not to “feel compelled to follow the British example slavishly.”¹³⁸

Another controversial matter is the independence of the regulator. The most prominent, or at least the most visible, regulatory failure of the United States’ offshore safety regime may have been the conflict of interest presented by comingling the safety and environmental regulators with the

130. *Id.*

131. 43 U.S.C. § 1348(b)(1) (2012).

132. See generally Rena Steinzor, *Lessons from the North Sea: Should “Safety Cases” Come to America?*, 38 B.C. ENVTL. AFF. L. REV. 417 (2011).

133. *Id.* at 421.

134. *Id.* at 431–32.

135. *Id.* at 434–38.

136. See *id.* at 424, 435.

137. *Id.* at 438–39.

138. John Paterson, *The Significance of Regulatory Orientation in Occupational Health and Safety Offshore*, 38 B.C. ENVTL. AFF. L. REV. 369, 389 (2011).

economic or licensing body.¹³⁹ The Presidential Commission recommended that Congress, in conjunction with the DOI, should “create an independent agency within the Department of Interior.”¹⁴⁰ It is interesting that the Presidential Commission recommended leaving the new safety and environmental regulatory body within the DOI.¹⁴¹ This could be viewed as a path of least resistance as the simplest and least costly option; or the belief that a body created by Congress could be adequately independent from the revenue management section in the DOI—yet still the DOI department head would be responsible for both, and still subject to debate on whether it is in-fact independent;¹⁴² or as a practical means of achieving the most that one can in the then existing socio-political climate.¹⁴³

IV. UNITED KINGDOM REGIME

The current United Kingdom safety case regime is the result of many years of reform. Taverne succinctly notes that the United Kingdom has two types of internal legislation: formal acts and subsidiary legislation, such as regulations created under authority of those acts.¹⁴⁴ Additionally, the United Kingdom has responsibilities to abide by EU regulations and directives. The first section of the United Kingdom analysis will briefly cover the highlights of why the United Kingdom has adapted to its goal-setting offshore regulations. Next, an analysis of post-Macondo regulatory adaptations, discussions and their context will be analyzed.

A. Safety

The United Kingdom initially claimed sovereign rights over offshore resources under a 1964 law.¹⁴⁵ The rush to claim resources left a legal void, creating an impetus in the ability to regulate petroleum development. A quick remedy that was intended to jumpstart the offshore oil industry and provide a licensing mechanism was to export the existing onshore regulations,¹⁴⁶ via the 1964 petroleum regulations,¹⁴⁷ and hope for a turn-key regulatory system.¹⁴⁸ This regime could be described as a laissez faire order with little thought to safety because the section that was purported to cover

139. See Leila Monroe, *Restructure and Reform: Post-BP Deepwater Horizon Proposals to Improve Oversight of Offshore Oil and Gas Activities*, 5 GOLDEN GATE U. ENVTL. L. J. 61, 73 (2011).

140. PRESIDENTIAL COMMISSION, *supra* note 1, at 256.

141. *Id.*

142. HOPKINS, *supra* note 12, at 138.

143. See ANTHONY OGUS, *REGULATION: LEGAL FORM AND ECONOMIC THEORY* 1, 3 (Clarendon Press, Oxford 1994).

144. Bernard Taverne, *An Introduction to the Regulation of the Petroleum Industry: Laws, Contracts and Conventions*, in INTERNATIONAL ENERGY AND RESOURCES LAW AND POLICY SERIES 48 (Thomas Wälde et al. eds., Graham & Trotman/Martinus Nijhoff 1994).

145. Continental Shelf Act, 1964, c. 29, § 1 (U.K.).

146. Petroleum (Production) Act, 1934, 24 & 25 Geo. 5, c. 36, § 1 (repealed Feb. 15, 1999) (Eng.).

147. Petroleum (Production) (Continental Shelf and Territorial Sea) Regulations, 1964, S.I. 1964/706 (U. K.).

148. See John Paterson, *Health and Safety at Work Offshore*, in OIL AND GAS LAW: CURRENT PRACTICE AND EMERGING TRENDS 190 (Greg Gordon et al. eds., 2nd ed. Dundee Univ. Press 2011).

safety was overly vague.¹⁴⁹ As Paterson noted, the remedies available to redress safety issues were limited to revocation of the license and, therefore, limited to the “most egregious behaviour.”¹⁵⁰

The Sea Gem collapse in December of 1965 was a tragedy that would open the government’s eyes to the lack of attention paid to safety in the law, as it existed at the time.¹⁵¹ The Minister of Power attempted to setup an inquiry, but did not have the authority to do so.¹⁵² Nevertheless, an informal inquiry was conducted. The Sea Gem Inquiry noted an inability for the law to recognize the wording of the Institute of Petroleum Code.¹⁵³ The Sea Gem Inquiry recognized the potential inadequacy in comprehensive prescriptive regulation whilst proceeding to recommend the composition of a comprehensive regulatory regime.¹⁵⁴ The potential deficiencies of prescriptive regulations were also noted.¹⁵⁵ However, the Sea Gem Inquiry, in the end, recommended that the government bear the duty of maintaining the health and safety of workers, and that a set of comprehensive regulations should be enacted to that end.¹⁵⁶ Conversely, the Robens Report,¹⁵⁷ recognized that the offshore industry in the United Kingdom could benefit from a more unified structure,¹⁵⁸ and presumably that structure should be a “more self-regulating system.”¹⁵⁹

The Mineral Workings (Offshore Installations) Act of 1971 was the vessel that was used to promulgate the comprehensive regulations recommended in the Sea Gem Inquiry.¹⁶⁰ Plagued by the time consuming nature of drafting large-scale regulations, the Mineral Workings Act would not produce a full set of regulations until several years later, and after production had already begun.¹⁶¹ Employer duties that existed under the Health and Safety at Work, etc. Act, 1974, to maintain the health and safety of its workers, were exported offshore.¹⁶²

Paterson noted that the Ekofisk Bravo platform blowout in Norway created an opportunity for the United Kingdom to learn from a disaster that occurred within the jurisdiction of another regime—albeit an issue still in the North Sea.¹⁶³ The Burgoyne Committee was established, it reviewed existing United Kingdom regulation, and submitted a report, the Burgoyne

149. *See id.* at 190–91.

150. *Id.* at 191.

151. *See id.* at 191.

152. *Id.* at 191.

153. *See*, SEA GEM INQUIRY, *supra* note 7, at ¶ 8.8.

154. Paterson, *supra* note 148, at 193.

155. SEA GEM INQUIRY, *supra* note 7, at ¶ 10.1.

156. *Id.* at ¶ 10.2.

157. LORD ROBENS, SAFETY AND HEALTH AT WORK: REPORT OF THE ROBENS COMMITTEE, 1972, Cmnd. 5034 (U.K.) [hereinafter Robens Report].

158. *Id.* at ¶ 109; *see also*, Paterson, *supra* note 148, at 198.

159. Robens Report, *supra* note 157, at ¶ 41.

160. Paterson, *supra* note 148, at 195–97.

161. *Id.* at 196.

162. Health and Safety at Work, etc. Act, 1974 (Application Outside Great Britain) Order, 1977, S.I. 1977/1232.

163. Paterson, *supra* note 148, at 199.

Report.¹⁶⁴ The Burgoyne Report agreed with the Sea Gem Inquiry in that the duty of ensuring safety should be borne by the government and accomplished by regulatory oversight.¹⁶⁵ However, as Paterson keenly elucidated,¹⁶⁶ the Burgoyne Report would differ from the Sea Gem Inquiry by recommending that the government accomplish its regulatory tasks by setting objectives “designed to achieve a uniformly high standard of safety.”¹⁶⁷ The Burgoyne Report noted the difficulty of drafting regulations “which can be readily understood by a person without legal training.”¹⁶⁸ The serious lack of effective involvement of the regulator in offshore inspections turned out to be an ominous omen of a disaster waiting to happen on the United Kingdom Continental Shelf (UKCS).¹⁶⁹

The Piper Alpha disaster occurred on the UKCS and claimed 167 lives on July 6, 1988. The ensuing inquiry, the Cullen Inquiry,¹⁷⁰ became the most authoritative and in-depth report in the oil industry ever conducted within the United Kingdom.¹⁷¹ Professor Paterson aptly stated that the Cullen Report “is a damning indictment of the state of safety in the United Kingdom” during the 1980’s.¹⁷² Lord Cullen recommended 106 changes, among them the prescriptive regime on offshore safety was to be remodeled into, primarily, a goal-setting regulatory approach.¹⁷³ Parliament accepted Cullen’s recommendations and implemented them essentially wholesale.¹⁷⁴

Interestingly enough, in the parliamentary debate regarding the Cullen Report, Mr. Frank Doran challenged the assertion by the Secretary of State for Energy, Mr. John Wakeham, that the “responsibility for safety has always been, and will always remain, with the operator” as an attempt by the Secretary to evade responsibility.¹⁷⁵ Mr. Doran’s point regarding the regulator’s responsibility to ensure that operators are doing what they are supposed to do is key. Perhaps more importantly, the regulator should be able to see when and what it has permitted or allowed the private industry to do. This ideology would be embodied, in the United Kingdom, through the safety case regime.

The Offshore Safety Act 1992 and the Offshore Installations (Safety Case) Regulations 1992 became the initial legislative foundation of Lord Cullen’s recommendations.¹⁷⁶ The 1992 Safety Case Regulations would

164. DEPARTMENT OF ENERGY, OFFSHORE SAFETY: REPORT OF THE COMMITTEE, 1980, Cmnd. 7866 (U.K.) [hereinafter Burgoyne Report].

165. See *id.* at ¶ 6.5.

166. Paterson, *supra* note 148, at 200.

167. Burgoyne Report, *supra* note 164, at ¶ 6.2.

168. *Id.* at ¶ 8.

169. *Id.*

170. See generally Cullen Report, *supra* note 7.

171. Paterson, *supra* note 148, at 204.

172. *Id.* at 204.

173. Cullen Report, *supra* note 7, at ¶ 21.69.

174. 180 Parl. Deb., H.C. (6th Ser.) (1990) 329–44; see also 187 Parl. Deb., H.C. (6th Ser.) (1991) 472–567.

175. 180 Parl. Deb., H.C. (6th Ser.) (1990) 329, 343–44.

176. Paterson, *supra* note 148, at 209–11.

prove to be too bureaucratically cumbersome, not proactive enough to adequately ensure safety, and not sufficiently involving the voice of the workforce to be effective.¹⁷⁷ Peripheral yet critical concerns that required regulatory change were developing on the UKCS. For example, operators were selling licenses to less experienced operators that were entering the market—requiring an additional analysis on who bears liability and on how cumbersome should regulations be. The Offshore Installations (Safety Case) Regulations 2005 became the mode through which the United Kingdom would remedy, as best as possible, the perceived faults of the 1992 Safety Case Regulations.¹⁷⁸

Paterson notes two more legislative enactments that can be used to provide punitive measures against intentional violations of offshore health and safety regulations—The Corporate Manslaughter and Corporate Homicide Act 2007 and The Health and Safety (Offences) Act 2008.¹⁷⁹ While it is imperative for the government to have a stick to match the carrot, elaboration of these punitive measures, designed for intentional wrongdoings, would be slightly outside the scope of the current analysis.

The Key Programme 3 (KP3) was an initiative by the Health and Safety Executive that was designed to address concerns regarding the “risk of major accidents” on the UKCS.¹⁸⁰ The report concluded that both management supervision and reporting to senior management were effective.¹⁸¹ However, the report further clarified that there was poor performance regarding system critical elements (SCE).¹⁸² KP3 noted that the poor performance was likely the result of “poor understanding of the function of SCEs as barriers,” risk assessments not being conducted, and severe maintenance issues.¹⁸³ The quagmire of these findings could be viewed as whether the United Kingdom regime is effective in catching the grievous safety concerns, or if it should be a damning indicator that the regime is not effective. While it is easy to point a finger at the regulator and suggest ipso facto failure, it would be more accurate to view it as an unintended migration of focus on occupational safety by the industry.¹⁸⁴ Here, we have an industry that operates in a dynamic environment and doing so on behalf of shareholders that are likely heavily concerned with the balance sheet. The government, in this instance, is responsible for ensuring that the industry lives up to its duty of providing a safe working environment.¹⁸⁵ Such a role

177. *Id.* at 216–18.

178. *See id.* at 216–20.

179. *Id.* at 222–27.

180. HEALTH AND SAFETY EXECUTIVE, OFFSHORE DIVISION OF THE HAZARDOUS INSTALLATIONS DIRECTORATE, KEY PROGRAMME 3: ASSET INTEGRITY PROGRAMME, 2007, at 8 [hereinafter KP3].

181. *Id.* at 13.

182. *Id.* at 12.

183. *Id.* at 13.

184. *See* ENERGY AND CLIMATE CHANGE COMMITTEE, UK DEEPWATER DRILLING—IMPLICATIONS OF THE GULF OF MEXICO OIL SPILL: GOVERNMENT RESPONSE TO THE COMMITTEE’S SECOND REPORT OF SESSION, 2010–2011, 3 H.C. 882.

185. *See* Offshore Installations (Safety Case) Regulations, 2005, S.I. 2005/3117, §§ 5(2), 16.

is inherently indicative that poor performance is possible or even expected at some point in order to justify the role of the regulator in this regime. Therefore, the revelation that the industry had shortcomings in understanding the interconnectedness of basic infrastructure to SCEs tends to establish that the United Kingdom regime was operating as intended in this circumstance.¹⁸⁶

B. Environmental

The United Kingdom has several environmental laws and numerous regulations that justify substantial research. However, this article must limit attention to the prominent laws and regulations affecting exploration and production on the UKCS and the alterations of laws and regulations as a result of the Macondo incident.¹⁸⁷

Petroleum Licensing Regulations (PLR)¹⁸⁸ creates schedules, model clauses, and assigns significant discretionary authority to the Minister of Energy.¹⁸⁹ The PLR covers several points, such as: joint and several liability of licensees,¹⁹⁰ ability of the Minister essentially to enjoin a more competent licensee in a joint venture to ensure compliance of the license, requisite permission requirements to drill or abandon a well with few exceptions,¹⁹¹ and general duties such as “efficient and workmanlike manner,”¹⁹² or “good oilfield practice.”¹⁹³ Perhaps the most relevant provision for this article is the requirement to prevent the escape of hydrocarbons.¹⁹⁴ The Petroleum Licensing Regulations 2008 contains similar duties as mentioned above and it updated the model clauses that affect licenses distributed thereafter.¹⁹⁵

The Assessment of Environmental Effects Regulations requires an environmental statement to be presented in order to obtain consent from the Secretary of State in order to carry out exploration and production activities.¹⁹⁶ However, discretion of the Secretary of State is permitted to obviate the requirement for an environmental statement given specific

186. KP3, *supra* note 180, at 14.

187. For a review of UK environmental laws: Luke Havemann, *Environmental Law and Regulation on the UKCS*, in *OIL AND GAS LAW: CURRENT PRACTICE AND EMERGING TRENDS* (Greg Gordon et al. eds., 2nd ed., Dundee University Press 2011); *see also*, JANE HOLDER, *ENVIRONMENTAL ASSESSMENT: THE REGULATION OF DECISION MAKING* (Oxford University Press 2004).

188. Petroleum Licensing (Exploration and Production)(Seaward and Landward Areas) Regulations, 2004, S.I. 2004/352.

189. Havemann, *supra* note 187, at 233–34.

190. S.I. 2004/352, (Schedule 1) ¶ 1(2).

191. *Id.* at ¶ 7(1)–(2), (6).

192. *Id.* at ¶ 7(7).

193. *Id.* at ¶ 9(1).

194. *Id.* at ¶ 9(1).

195. Petroleum Licensing (Production)(Seaward Areas) Regulations, 2008, S.I. 2008/225, § 2, 23.

196. The Offshore Petroleum Production and Pipe-lines (Assessment of Environmental Effects) Regulations, 1999, S.I. 1999/360, § 5(1) [hereinafter Assessment Regulations].

parameters.¹⁹⁷ If the Secretary relieves the requirement for an environmental statement, then the matter is a fairly transparent and publicized decision with particular reasons articulated in written form.¹⁹⁸

The Habitats Regulations requires the Secretary of State to “consult the Joint Nature Conservation Committee and have regard to any representations made by that body,”¹⁹⁹ where activities are prone to have a “significant effect” on habitats such as those protected under the Wild Birds Directive.²⁰⁰ However, the Secretary of State has authority to set aside the protections mentioned in specific instances and with particular constraints.²⁰¹

C. United Kingdom Macondo Response

The United Kingdom appears to have a multi-pronged process by which several governmental bodies and the industry itself have launched investigations into how the Macondo disaster could impact the United Kingdom regime. This article will look at the DECC, the House of Commons Energy and Climate Change Select Committee, the HSE, and the Oil Spill Prevention and Response Advisory Group (OSPRAG), and their views or responses to the incident. In the United Kingdom, there has been no substantial legislative activity regarding offshore safety or environmental concerns that are relevant to this article.

The DECC’s response, at least the immediate response, could be viewed as a bit awkward. There was a statement by Energy Secretary Chris Huhne that declared the United Kingdom’s regime was “fit for purpose.”²⁰² That statement was magnanimously early and has been viewed as modestly self-contradicting when robust and public inquiries were ordered with the same breath.²⁰³ This could be an attempt to keep the public appeased while providing time for the regulator to adequately study the problem. Interestingly enough, the legislature did not seem to be in step with Huhne’s rationale; the House of Commons Select Committee suggested that the United States be studied to determine if a gold standard would evolve—although no such standard has evolved to date.

House of Commons Energy and Climate Change Select Committee (HCE Committee) has collected evidence, made conclusions or recommendations, and worked with the regulatory arm of the government toward assessing the potential issues that the Macondo incident may have revealed in the United Kingdom regime. The HCE Committee noted many of its

197. *Id.* at §§ 5(2), 6.

198. *Id.* at § 5(10).

199. Offshore Petroleum Activities (Conservation of Habitats) Regulations, 2001, S.I. 2001/1754, § 5(2).

200. *Id.* at §§ 5(1)–(4).

201. *See id.* at §§ 6, 14–15.

202. Stephen Tromans & Josephine Norris, *What if Deepwater Horizon Occurred West of Shetland*, INT’L ENERGY L. REV. 220, 220 (2010).

203. *See id.*

questions were adequately resolved through the Safety Case Regulations.²⁰⁴ However, the HCE Committee does question the regulator on whether it would be more prudent to utilize prescriptive regulations for fail-safe mechanisms, namely blowout preventers.²⁰⁵ The HCE Committee report also noted a potential flaw in the United Kingdom regime regarding high-consequence, low-probability events, and offers the lack of a capping device prior to the Macondo incident as evidence of that flaw.²⁰⁶ The HCE Committee also suggested that the government monitor changes in the United States regime and to determine if those changes would be useful in the United Kingdom.²⁰⁷ The government's response was a bit peculiar in that it spent about three paragraphs describing its regulatory superiority and how it intended to disseminate that knowledge, and included only one sentence indicating that it would be "looking at what the United States does."²⁰⁸ Whilst there is nothing per se wrong with stating one has a superior regime, this would not be the first time that the United Kingdom regulator has not taken reports or opinions into genuine consideration until there is an incident on the UKCS.²⁰⁹ Perhaps one could say that the mentality of approaching regulatory improvements in the United Kingdom offshore regime must contend with a residual reluctance to accept concepts not portrayed with sufficient "Britishness."²¹⁰

HSE's Offshore Division (OSD) setup the Deepwater Horizon Incident Review Group, which has expressed interest in the issues of well-control, and is addressing the issue by conducting more frequent assessments of "well control issues by including this aspect at all offshore inspections of mobile drilling rigs."²¹¹ The group found that the current regime has "high offshore regulatory standards."²¹²

Oil and Gas United Kingdom set up Oil Spill Prevention and Response Advisory Group (OSPRAG). OSPRAG has developed a final report that has pulled together much of its work. Advising on key issues such as a minimum list of staff that should have formal education regarding their critical positions, well control schemes, blowout preventer usage, record keeping, performance standards, and audit procedures.²¹³ The industry has indeed keyed in on many points that were targeted by the United States

204. ENERGY AND CLIMATE CHANGE COMMITTEE, UK DEEPWATER DRILLING—IMPLICATIONS OF THE GULF OF MEXICO OIL SPILL, 2010–2011, H.C. 450-I.

205. *Id.* at 41.

206. *Id.* at 43.

207. *Id.* at 42.

208. ENERGY AND CLIMATE CHANGE COMMITTEE, UK DEEPWATER DRILLING—IMPLICATIONS OF THE GULF OF MEXICO OIL SPILL: GOVERNMENT RESPONSE TO THE COMMITTEE'S SECOND REPORT OF SESSION, 2010–2011, H.C. 882, at 7.

209. See generally Robens Report, *supra* note 157; see also, Burgoyne Report, *supra* note 164.

210. See generally Linda Colley, *Britishness and Otherness: An Argument*, 31 J. BRITISH STUD. 309 (1992).

211. HEALTH AND SAFETY EXECUTIVE BOARD, AN UPDATE ON OFFSHORE MATTERS, H.S.E. 11/61, Annex 4 (2011).

212. *Id.*

213. See generally UK OIL SPILL PREVENTION AND RESPONSE ADVISORY GROUP, STRENGTHENING UK PREVENTION AND RESPONSE, FINAL REPORT (2011).

regulator as in need of change. However, it appears to be the industry's viewpoint that these issues are best left alone by the regulator and that they, the industry, will deal with the matter.

The United Kingdom regime may be at risk of losing its credibility as a gold-standard regulatory regime if it fails to adapt to lessons learned in the industry around the globe. Malcolm Webb has suggested that the "depth of water is not the critical element" in mitigating risk in offshore drilling, it is the "practices and procedures employed to drill the well and to regulate" the industry.²¹⁴ This author appreciates the steadfast faith placed in the offshore regime in the United Kingdom. Further, it is acknowledged that the United Kingdom has undertaken several studies into the Macondo incident. However, it tacitly appears that some of these investigations have been done with tongue-in-cheek. Or to put it differently, an answer has been given before the question was asked. Sheldon also conceded that the majority of United Kingdom drilling depths are different from that of the Gulf of Mexico, but further stated that drilling in the United Kingdom is "nevertheless deep . . . remote and distant from the response infrastructure that was available to the Macondo incident."²¹⁵

European Union legislation has previously been non-existent directly regarding offshore oil and gas.²¹⁶ Tromans and Norris claim that the United Kingdom's offshore environmental regime is "more robust than that applicable in the United States" and is generally a product of EU legislation.²¹⁷ However, the authors further note that it is "questionable whether the current United Kingdom regime is immune from the criticisms levied against the MMS" regarding the potential for conflicts of interest.²¹⁸ The Deepwater Horizon incident has prompted the EU to reassess its *laissez faire* position on the offshore industry.²¹⁹ A recent EU Directive draws a red line for the regulatory agencies, requiring the EU Member States to "ensure the independence and objectivity of the competent authority in carrying out its regulatory functions."²²⁰ The status of the DECC, regarding the comingling of the roles as environmental regulator and as the licensor of offshore operations, appears to now be in conflict with European law.²²¹

The United Kingdom has some room in determining how to implement this EU Directive within its jurisdiction since it is a directive as opposed to a regulation. However, the EU appears to have keenly focused on one of the prominent mistakes of the American regime, the potential

214. ENERGY AND CLIMATE CHANGE COMMITTEE, UK DEEPWATER DRILLING: IMPLICATIONS OF THE GULF OF MEXICO OIL SPILL, FORMAL MINUTES, ¶ Q1 (Sept. 7, 2010).

215. Jeremy Sheldon, *Ripples from the Gulf of Mexico*, INT'L ENERGY L. REV. 12, 13 (2011).

216. Danielle Beggs et al., *Post-Macondo – Offshore and EHS Regulation*, INT'L ENERGY L. REV. 199, 202 (2011).

217. Tromans & Norris, *supra* note 202, at 222.

218. *Id.* at 221.

219. Beggs et al., *supra* note 216, at 202.

220. See Directive 2013/30 of the European Parliament and of the Council of 12 June 2013 on Safety of Offshore Oil and Gas Operations and Amending Directive 2004/35/EEC, art. 8(2).

221. See *id.* at art. 8(3).

conflict of interest. The EU has further recognized that EU Member States, such as the United Kingdom, are resisting recognizing that their regime has correlative attributes that put their respective offshore safety and environmental regimes at risk. It will be interesting to view whether the United Kingdom creates an independent environmental body or merges the environmental regulator with an existing body. The latter is likely more economically and logistically probable. Either way, this tends to establish that the United Kingdom may not have learned all the lessons that it could have from the Macondo incident.

V. CONCLUSION

A. *United States*

The largest lesson that the Macondo disaster should have taught all involved is that the safety and environmental dangers are not separate, but, instead, they are intrinsically intertwined. The United States has a prolific set of environmental regulations and agencies. Minor tweaks in giving them proverbial teeth either in substance or practice could provide America with an abundance of positive measures for the environment and safety.

The United States Congress should separate the offshore safety and environmental regulator from DOI control by a dually enacted law. The Department of Health and Human Services and the United States Environmental Protection Agency are turnkey agencies that could support such a move. The legal alterations regarding authority could also be addressed by an incorporation or delegation of authority by the DOI to the respective external offices.

The United States regime has developed substantive prescriptive regulations that appear to be commensurate with the threats presented in the Gulf of Mexico. Well-control, particularly with casing and cementing, requirements to have plans approved prior to drilling are substantive regulatory changes that are perhaps understandable given the developments of the Macondo well. The requirement of an additional mechanical barrier seems to be a direct attempt to compensate for the mistakes that led to the Macondo incident.

Congress could redress the OCSLA temporal and general oversight impediments through a combination of removing the thirty-day restriction, integrating the environmental review with the SEMS, requiring the SEMS program to be reviewed—and approved—prior to the approval to drill, and a relative increase in the BSEE's budget to enable the regulator to accomplish such a task. One concern is that the piecemeal approach by Congress, such as the attempt to set a temporal hard line of ninety days even if it has the potential for sixty additional days, tends to establish that either the SEMS will likely not be fully utilized in the near future or Congress is being highly inefficient. Short or even maximum review times should instead

be minimum review periods that the BSEE has in order to review a proposal to ensure that it is an adequate SEMS plan, then move forward after verification. It should be noted that the budget increase for the regulator would be significant if it were to address the number of personnel that have adequate knowledge or experience to accomplish such a challenge. This may be a topic that the United States Congress discovers that it gets what it pays for.

SEMS is a step toward a functional goal-oriented or hybrid regime. However, unless further steps are taken in both regulation and resource allocation, the SEMS may fade into obscurity. If the current state of SEMS is the extent of the regulators intention, then it does not provide substantive legal protection for the United States, the environment, or for the workers, boaters, and citizens that depend on ocean waters in America. Funding, competent staffing, and a regulatory requirement to receive a SEMS approval are requisite and necessary means to obtain the full potential of the SEMS program.

Overall, the United States has acknowledged key faults in the regulatory system prior to the Macondo incident. The regulator has addressed a multitude of those issues. An organizational self-restructuring and recusal policy serves to combat potential conflicts of interest. Regulations to sure up well-control issues have been promulgated. The SEMS program serves as a first step toward a regime change recommended by a multitude of researchers and committee reports. However, the efficacy of the organizational restructuring is debatable. The SEMS is either incomplete or incapable of performing, as it should. Either way, the SEMS should be amended to require regulatory approval before drilling on the USCS. The Congress should provide adequate funding for a competent and robust staff to make the SEMS and the BSEE as effective as possible.

B. United Kingdom

The United Kingdom regime is arguably a progressive view taken to keep pace with the dynamic nature, rapidly advancing technology, and ever changing best practices to mitigate risk regarding oil and gas production on the continental shelf. Concern has been made previously regarding the efficacy of the safety case regime, in particular the KP3. However, perhaps the largest concern could be the mixed signals that can be observed when reviewing the United Kingdom's response to the Macondo incident. Further study would need to be conducted regarding lessons learned on safety and environmental issues in order to determine the extent the United Kingdom has learned, implemented, or failed to do so. However, there are lessons from Macondo that may or should send an alarm bell ringing for the United Kingdom regulator.

One ringing alarm bell that is likely to pressure the United Kingdom into learning an additional lesson from the Macondo incident is the EU Directive that concerns separation of the environmental division from the

licensing division. The EU appears to have spoken with regard to its interpretation of concerns in potential conflicts of interest. Perhaps equally important is the implicit realization that, in offshore oil and gas endeavors, an environmental issue is intrinsically intertwined with safety issues.

The commingling of regulatory and economic interests in the United Kingdom is a direct point toward showing that the United Kingdom has not effectively learned from the Macondo incident. Questions regarding whether it is best to provide an additional mechanical barrier for well control still has not been fully confronted by the United Kingdom.

C. United States and United Kingdom

The reluctance to accept outside ideas is an issue for both regimes. However, both regimes are taking steps toward accepting outside ideas. The United Kingdom committed resources to study the Macondo incident, and it has a more secure industry as a result. The EU may have just prompted the United Kingdom to learn, or at least be creative in explaining why it will not learn, about regulatory conflicts of interest. A practical benefit in the United Kingdom industry, and the product of learning from the Macondo incident, is the specialized capping devices that are now available for use on the UKCS.

The United States has taken a step toward developing the SEMS. However, the SEMS has limited effectiveness without further adjustment. Even if mandatory approval under the SEMS prior to drilling were to take place, it would likely be useless without proper funding and appropriate regulatory personnel to oversee the program.

Regardless of the final decisions made in the realm of politics, both the United States and the United Kingdom have endeavored into significant studies regarding the Macondo incident. The knowledge of those studies has been, and will be, used as the offshore industry ventures further offshore and into dynamic geological formations. Nevertheless, both states have deficiencies, or they are nonresponsive to threats presented in their respective regimes. Both regimes should continue to learn more from each other as further analysis is accomplished.