The regulation of activities occurring upon and above the continental shelf remains an evolving and complicated aspect of the law of the sea. The continental shelf, which may extend up to 200 nautical miles on an orthodox construction, or up to 350 miles based on one of the more complicated aspects of the UN Convention on the Law of the Sea 1982 (LOSC), may be a source of great wealth and economic activity for coastal states. Conversely, as the notorious Deepwater Horizon disaster in the Gulf of Mexico amply demonstrates, continental shelf activities may often be relatively lightly regulated yet present a substantial scope for disaster. Difficult questions remain concerning the role of international law in this context, with states having proved reluctant to the prescription of binding multilateral standards in an area that has long been associated with a frontier mentality towards regulation. As this lively, insightful and highly topical volume illustrates, activities on the continental shelf give rise to a number of differing legal approaches, regional pressures and offer few easy answers for international regulators.

The Regulation of Continental Shelf Development: Rethinking International Standards is the latest volume in Martinus Nijhoff’s popular series of papers emanating from the Annual Conference on Oceans Law and Policy. The book comprises nineteen substantive chapters and a reproduction of an entertaining address from the ever-insightful Edgar Gold. The volume opens with a concise address from Shunmugan Jayakumar, a core member of the negotiating committee of the LOSC between 1973–82, setting the scene with an overview of the continental shelf regime. This relatively brief contribution nonetheless outlines a number of sticking-points of the negotiations, notably the discovery of increasing quantities of hydrocarbon resources on the continental shelf, which threatened the unity and uniformity of international law in this area then as it does now. The book then moves to its first substantive part, comprising three valuable chapters examining contemporary uses of the continental shelf. The opening chapter of this section is a learned and highly comprehensive analysis of offshore wind energy and the application of ecosystem-based management, set against the backdrop of EU regulation, by Ronán Long. Professor Long, a leading marine environmental lawyer provides a thorough analysis of the potential issues of EU law that may be applicable to the vacuum presented by the absence of global regulation. In a chapter that rewards close and careful reading, Long outlines ongoing obligations within this sector, including a rare and much-welcomed appraisal of strategic environmental assessment aspects and scientific monitoring commitments, concluding that the nascent EU system potentially offers a means of reconciling economic benefits with a high volume of environmental protection, yet finding that significant regulatory and implementation gaps remain.

The book moves on to examine sub-marine cables on the continental shelf, where Douglas R Burnett examines the general legal obligations inherent in this activity, as well as the clear scope for disputes. Burnett’s examination reveals this issue to be another area for which the relatively vague commitments in the LOSC have the scope to raise mischief between states. Burnett appraises the regulatory responses of a disparate group of countries, namely Malta, India, China and the UK, noting that impediments have been put in place for foreign cable interests that neither benefit the global economy nor facilitate the ‘due regard’ owed by nations to others in their pursuit of continental shelf policies. This section of the book closes with a brief discussion of the potential value of marine minerals by Georgy Cherkashov, outlining that marine mining – while a limited substitute for land-based extraction – is likely to increase dramatically in the near future, with clear regulatory implications.

The book then moves on to consider emerging challenges to the development of the continental shelf regime. This section opens with a highly informative chapter by Michael W Lodge, a senior figure within the International Seabed Authority (ISA), examining the development of mining standards under the auspices of this organisation. Following a discussion of the general functions and powers of the ISA, Lodge illustrates the intended
linksages between economic activities and environmental standards within the continental shelf regime, by outlining the emergence of regulatory standards for prospective operators. Lodge indicates that there is likely to be a mutually-reinforcing relationship between the ISA and national operators, with the Authority able to draw upon the longstanding practices of many key coastal states in regulating the hydrocarbon industry, while drawing upon the counsel of a new regulatory voice in addressing the nascent regime of seabed mining.

Next, Ted L McDorman provides a masterly analysis of the recent decision of the International Tribunal for the Law of the Sea (ITLOS) in the Bay of Bengal (Bangladesh/Myanmar) Case. The case was the first delimitation action decided before ITLOS, but beyond the technical task of establishing national boundaries, raised further questions over the role of the Commission on the Limits of the Continental Shelf. In a thorough appraisal of the merits of the case, McDorman argues that the Tribunal has established categorically the limits of the Commission in interpreting the LOSC, as established under Article 76 of the Convention. This section closes with a more explicit look at environmental standards for offshore drilling by Captain J Ashley Roach. Roach provides an interesting and thorough evaluation of the current and projected role of the IMO in regulating aspects of the offshore industry, an organisation that has played a somewhat unheralded role in this respect. Roach further notes the paradox that states are obliged under the LOSC to legislate in a manner that is no less effective than international laws and standards in this regard, yet a discernible corpus of international regulation has yet to clearly emerge. In this respect, faute de mieux, Roach calls for a further clarification of the competence of the IMO in offshore activities in the hope that this might accelerate the development of a clear body of rules in the mid-term future.

There follows a more explicit look at environmental regulation, with particular emphasis on best-practice procedures, which is a formal requirement of many regulatory models but which has been subject to relatively limited legal appraisal to date. Andreas Kannen, Hartwig Krümer, Kira Gee and Marcus Lange examine renewable energy considerations in marine spatial planning, highlighting the key difficulty that shifting scientific baselines and a general dearth of comprehensive data often undermines the planning processes for offshore renewables. The authors note the inherent tensions between renewable energy and other uses of the sea and argue that scientific knowledge may play a key role in mitigating these issues by providing a clearer basis for marine spatial planning. Joanna Mossop then examines safety and environmental aspects of outer continental shelf activities, an issue that was starkly and tragically exposed by the Deepwater Horizon catastrophe. In an interesting and insightful chapter, Mossop examines the core provisions of the LOSC applicable to hydrocarbon extraction, noting that general obligations to preserve and protect the marine environment and to endorse marine scientific research in these areas have not been well served by the slow development of applicable standards by many coastal states. Complementing this contribution, Preben H Lindoe and Ole A Engen provide a Norwegian perspective on offshore safety regimes. The authors outline something of a general trend towards industry-led procedural regulation, primarily orientated around the safety of those engaged in offshore drilling, and endorsing the EU’s embracing of the industry as a key part of the regulatory system. The authors conclude with the observation that the fundamental philosophies underpinning national labour law vary strongly between jurisdictions – and that those who value the input of workers in the regulation of the industry have helped to facilitate a more robust, safety-oriented approach.

The next section of the book engages ‘probabilistic risk’, a regulatory philosophy that seeks to evaluate the precise issues that can go wrong in a particular endeavour, their likelihood and the projected consequences. This subject is introduced in a concise and helpful fashion by Martin G Malsch, before Bruce C Glavovic outlines current risk assessment practices in the offshore industry, calling for new regulatory approaches that are underpinned by community-based problem-solving and decision-making, arguing that this approach would have served BP considerably better in the Gulf of Mexico. The book then moves on to examine the relatively neglected issue of decommissioning which, as a number of oil fields now start to decline in terms of their productivity, will become an issue of increasing significance in future years. To this end, Robert Beckman considers the current global regime addressing decommissioning issues, insofar as it exists as a clear and coordinated system, concluding that while the LOSC provides a degree of clarity, there are a number of grey areas – not least in relation to current attempts to address man-made reefs. This theme is developed further by David Johnson, who considers initiatives within the North Atlantic region, where the OSPAR Commission has demonstrated a strong degree of leadership in this respect. Johnson reveals, however, that the implementation of these stan-
approaches. Some are relatively brief and consιderable number of emerging industries and
siderable degree of external oversight and regulation. These
more numerous examples of Canadian practices. Meanwhile,
governance of the continental shelf, numerous
regime governing the continental shelf, numerous
remains a considerable degree of uncertainty over the pre-
cise boundaries of the Arctic continental shelves, while there is likely to be a considerable degree of
bilateral regulation of shared resources, as occurs already in the region in respect of fish stocks and
for which there are precedents worldwide concerning hydrocarbons. In this regard, this fascinating
chapter provides a strong metaphor for the wider issues raised in the book in its conclusion
that continental shelf resources of the Arctic remain contested, subject to limited coastal state
regulation and illustrate a reluctance of national governments to accept an internationally-imposed
regime to regulate these resources.

Overall, The Regulation of Continental Shelf Development: Rethinking International Standards
provides considerable food for thought for those wrestling with legal, scientific and policy issues
associated with the exploitation of continental shelf resources. The book provides a lively,
erudite, informed and informative commentary on the system of regulation underpinning these
issues. As with its (now rather extensive set of) companion volumes in this popular series, this
volume encompasses a range of papers and approaches. Some are relatively brief and conver-
sational, others are extremely thorough and detailed; all are insightful and offer an interesting
introduction and treatment of their constituent topics. As the Deepwater Horizon disaster attests,
there remain considerable gaps in the legal regime governing the continental shelf, numerous
legal approaches and philosophies and a consider-
sable number of emerging industries and sectors for which there is a relatively limited
degree of external oversight and regulation. These
remain issues that will clearly require hard-negotiated solutions in the coming years. This
comprehensive, helpful and highly informative collection nonetheless offers a valuable and
highly recommended insight into current and future regulatory approaches.

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