Civil Liability and Financial Security for Offshore Oil and Gas Activities provides insights into the liability and compensation regime for offshore-related damage. This book analyzes the legal regime in a number of countries (including the United States and the United Kingdom) as well as the EU regime. In addition, the various compensation mechanisms and amounts available today to compensate offshore-related damage are described and critically analyzed. Moreover, based on in-depth interviews with a wide variety of relevant stakeholders, including insurers, representatives from supervisory authorities, and oil and gas producers, this volume also provides a variety of policy recommendations formulated to provide an optimal compensation regime for offshore-related damage.

Michael Faure is Professor of Comparative Private Law and Economics at Erasmus University Rotterdam and Professor of Comparative and International Environmental Law at Maastricht University. He serves also as Academic Director of the Maastricht European Institute for Transnational Legal Research (METRO).
CIVIL LIABILITY AND FINANCIAL SECURITY FOR OFFSHORE OIL AND GAS ACTIVITIES

Edited by

MICHAEL FAURE

Universiteit Maastricht, Netherlands
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On April 20, 2010, the world was shocked when an accident occurred at the mobile deep-water offshore rig Deepwater Horizon in the Gulf of Mexico, leading to an unprecedented spill that continued for several months with a total loss of several million barrels of oil. Immediately after the incident, the obvious question was asked whether the operator (BP) could be held liable to compensate for the damage that resulted from the incident. In the immediate aftermath of the disaster, steps were taken to force BP to make funds available for compensation of the victims in the light of its obligations under the US Oil Pollution Act. However, in other jurisdictions the question also arose as to how liability and compensation for the consequences of such an incident would be regulated. It appeared that whereas oil spills resulting from tankers had been largely regulated, to some extent to the surprise of many, there was no international convention with respect to civil liability and compensation for damage resulting from offshore oil and gas activities. This also led to great concern within the European Union and resulted, inter alia, in legislative action by the European Commission leading to a Directive (2013/30/EU of June 12, 2013) on the safety of offshore oil and gas operations. At the same time, the European Commission also commissioned an in-depth study into the liability and compensation for damage resulting from offshore oil and gas activities, where these activities occur in European waters. This study started in the fall of 2012, and the results were delivered in October 2013. Subsequently, the team of writers has substantially revised and updated the policy report into an academic study, of which this book is the result.

The aim of this book is not only to provide insights, inter alia, by focusing on past incidents, on the risks related to offshore incidents but also to provide an in-depth analysis of existing legal regimes at both the international and EU levels, as well as by analyzing various domestic legal regimes. This book equally analyzes how currently (through a variety of financial and insurance instruments) the liability for damage resulting...
from a major offshore accident is covered. In addition to describing the status quo, this book also analyzes, taking both an empirical and a theoretical (law and economics) approach, how the compensation of damage following a major offshore accident could be arranged. The analysis in this book focuses on the question of how (using a variety of compensation mechanisms in combination), on the one hand, a high amount of compensation could be provided and, on the other hand, how various compensation mechanisms could equally provide effective incentives to prevent major offshore accidents.

Because the questions addressed in this book go beyond a simple legal analysis, the team of authors constituted lawyers (Faure, Liu, and Wang) and economists (Philipsen and De Smedt). Because our aim was not only to provide an academic study but also to obtain detailed insights into the scope of offshore-related risks and the compensation mechanisms available, more than twenty interviews were held with relevant stakeholders (listed in Appendix 1). We are grateful to the stakeholders we interviewed for the valuable information they provided, which substantially contributed to the quality of the final result. During the earlier phase of the collaboration with the European Commission, we benefited from interesting insights and comments provided by collaborators at the Commission. We are grateful to all of them and, in particular, to Eero Ailio, Arthur van Daalen, Xavier Goulay, Jorg Koehli, and Taf Powell.

Obviously, the usual disclaimer applies, implying that the contents of this book obviously do not bind the European Commission in any way and that all errors are ours alone.

We are equally grateful to Marjo Mullers and Marina Jodogne (METRO, Maastricht University) for editorial assistance, as well as to the team at Cambridge University Press for a pleasant collaboration in the preparation of this manuscript for publication.

We truly hope that with this book we can provide a modest contribution to improving the safety of offshore oil and gas activities and to an adequate compensation of victims.
ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
<th>Description</th>
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<tr>
<td>ACV</td>
<td>actual cash value</td>
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<tr>
<td>AEC</td>
<td>Atomic Energy Commission (US)</td>
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<tr>
<td>AIPN</td>
<td>Association of International Petroleum Negotiators</td>
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<tr>
<td>AMSA</td>
<td>Australian Maritime Safety Authority</td>
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<tr>
<td>ANI</td>
<td>American Nuclear Insurers</td>
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<tr>
<td>ANP</td>
<td>National Petroleum Agency (Brazil)</td>
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<tr>
<td>AtG</td>
<td>Atomgesetz</td>
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<tr>
<td>AUD</td>
<td>Australian dollar</td>
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<tr>
<td>Barcelona Convention</td>
<td>Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean</td>
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<tr>
<td>BAT</td>
<td>best available techniques</td>
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<tr>
<td>bio.</td>
<td>billion</td>
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<td>BOE</td>
<td>barrels of oil equivalent</td>
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<td>BOEM</td>
<td>Bureau of Ocean Energy Management</td>
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<tr>
<td>BOEMRE</td>
<td>Bureau of Ocean Energy Management, Regulation and Enforcement</td>
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<tr>
<td>BOP</td>
<td>blowout preventer</td>
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<td>BP</td>
<td>British Petroleum</td>
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<tr>
<td>BSEE</td>
<td>Bureau of Safety and Environmental Enforcement (US)</td>
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<tr>
<td>Bucharest Convention</td>
<td>Convention for Cooperation in the Protection of the Black Sea Against Pollution 1992</td>
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<tr>
<td>CBT</td>
<td>contingent business interruption</td>
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<tr>
<td>CCC</td>
<td>care, custody, or control</td>
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<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act (US)</td>
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<tr>
<td>CESE</td>
<td>Conseil Économique, Social et Environnemental</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations (US)</td>
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<tr>
<td>CGAA</td>
<td>Coast Guard Authorization Act (US)</td>
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<tr>
<td>CGMTA</td>
<td>Coast Guard and Maritime Transportation Act (US)</td>
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<tr>
<td>CLC</td>
<td>International Convention on Civil Liability for Oil Pollution Damage</td>
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LIST OF ABBREVIATIONS

CLEE The Convention of Civil Liability for Oil Pollution Damage Resulting from Exploration for and the Exploitation of Seabed Mineral Resources

COFR certificate of financial responsibility

COPE Compensation for Oil Pollution in European Waters

CRISTAL Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution

CSC Convention on Supplementary Compensation for Nuclear Damage

CSSP court-supervised settlement program

CWA Clean Water Act (US)

DEA Danish Energy Agency

DECC Department of Energy and Climate Change (UK)

DEFRA Department for Environment, Food and Rural Affairs (UK)

DEM Deutsche mark

DEPA Danish Environmental Protection Agency

DMITRE Department of Manufacturing, Innovation, Trade, Resources and Energy

DNV Det Norske Veritas

DOE Department of Energy (US)

DOI Department of the Interior (US)

DOJ Department of Justice (US)

DUC Dansk Undergrunds Consortium

EED Energy Exploration and Development (Insurance)

EEZ exclusive economic zone

EIA Energy Information Administration (US)

ELD Environmental Liability Directive

ELINI European Liability Insurance for the Nuclear Industry

EMANI European Mutual Association for Nuclear Insurance

EMSA European Maritime Safety Agency

ENI Italian Hydrocarbons Agency

ENO extraordinary nuclear occurrence

EPA Environmental Protection Agency (US)

EU European Union

EUR euro

FERC Federal Energy and Regulatory Commission (US)

FR Financial Responsibility Form

Fund Convention International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage

GCCF Gulf Coast Claims Facility (US)
<table>
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<th>Description</th>
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<tbody>
<tr>
<td>GT</td>
<td>tonnage of ship</td>
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<tr>
<td>HCRs</td>
<td>hydrocarbon releases</td>
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<tr>
<td>Helsinki Convention</td>
<td>Convention for the Protection of the Marine Environment of the Baltic Sea Area 1992</td>
</tr>
<tr>
<td>HP</td>
<td>high-pressure wells</td>
</tr>
<tr>
<td>HSE</td>
<td>Health and Safety Executive (UK)</td>
</tr>
<tr>
<td>HT</td>
<td>high-temperature wells</td>
</tr>
<tr>
<td>IADC</td>
<td>International Association of Drilling Contractors</td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
</tr>
<tr>
<td>IAT</td>
<td>incident analysis team</td>
</tr>
<tr>
<td>IEA</td>
<td>International Energy Agency</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>IMR</td>
<td>Institute of Maritime Research</td>
</tr>
<tr>
<td>INPO</td>
<td>Institute of Nuclear Power Operations</td>
</tr>
<tr>
<td>INTERTANKO</td>
<td>International Association of Independent Tanker Owners</td>
</tr>
<tr>
<td>IOPC Fund</td>
<td>International Oil Pollution Compensation Fund</td>
</tr>
<tr>
<td>IRF</td>
<td>International Regulators’ Forum</td>
</tr>
<tr>
<td>IRMI</td>
<td>International Risk Management Institute</td>
</tr>
<tr>
<td>ITRE</td>
<td>European Parliament’s Committee on Energy</td>
</tr>
<tr>
<td>IUMI</td>
<td>International Union of Marine Insurance</td>
</tr>
<tr>
<td>J&amp;S</td>
<td>joint and several liability</td>
</tr>
<tr>
<td>JNCC</td>
<td>Joint Nature Conservation Committee</td>
</tr>
<tr>
<td>JOA</td>
<td>joint operating agreement</td>
</tr>
<tr>
<td>JRC</td>
<td>Joint Research Centre</td>
</tr>
<tr>
<td>Klif</td>
<td>Climate and Pollution Agency (Norway)</td>
</tr>
<tr>
<td>KPI</td>
<td>key performance indicator</td>
</tr>
<tr>
<td>LNG</td>
<td>liquefied natural gas</td>
</tr>
<tr>
<td>LOGIC</td>
<td>Leading Oil Government’s Oil and Gas Industry Task Force</td>
</tr>
<tr>
<td>LTA</td>
<td>lost-time accident</td>
</tr>
<tr>
<td>MAERP</td>
<td>Mutual Atomic Energy Re-Insurance Pool</td>
</tr>
<tr>
<td>MARPOL 73/783</td>
<td>1973 International Convention for the Prevention of Pollution from Ships as Amended by the Protocol 1978</td>
</tr>
<tr>
<td>MCA</td>
<td>Maritime and Coastguard Agency (UK)</td>
</tr>
<tr>
<td>MDL</td>
<td>multidistrict litigation</td>
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<tr>
<td>MEP</td>
<td>Member of the European Parliament</td>
</tr>
<tr>
<td>MIA</td>
<td>Mutual Indemnity Agreement</td>
</tr>
<tr>
<td>mio.</td>
<td>million</td>
</tr>
<tr>
<td>MIT</td>
<td>Massachusetts Institute of Technology</td>
</tr>
<tr>
<td>MMS</td>
<td>Minerals Management Service (US)</td>
</tr>
<tr>
<td>MODU</td>
<td>mobile offshore drilling unit</td>
</tr>
<tr>
<td>MOEX</td>
<td>Mitsui Oil Exploration Company</td>
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</table>
### List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>MOPU</td>
<td>mobile offshore production units</td>
</tr>
<tr>
<td>MOU</td>
<td>memorandum of understanding</td>
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<tr>
<td>MPE</td>
<td>Ministry of Petroleum and Energy (Norway)</td>
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<tr>
<td>MRF</td>
<td>mutual response fund</td>
</tr>
<tr>
<td>NatCats</td>
<td>natural catastrophes</td>
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<tr>
<td>NCA</td>
<td>Norwegian Coastal Administration</td>
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<tr>
<td>NEA</td>
<td>Nuclear Energy Agency</td>
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<tr>
<td>NEB</td>
<td>National Energy Board (Canada)</td>
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<tr>
<td>NEIL</td>
<td>Nuclear Electric Insurance Limited</td>
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<tr>
<td>NELIA</td>
<td>Nuclear Energy Liability Insurance Association</td>
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<tr>
<td>NFWF</td>
<td>National Fish and Wildlife Foundation</td>
</tr>
<tr>
<td>NGO</td>
<td>nongovernmental organization</td>
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<tr>
<td>NINA</td>
<td>Norwegian Institute for Nature Research</td>
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<tr>
<td>NM</td>
<td>nautical mile(s)</td>
</tr>
<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration (US)</td>
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<tr>
<td>NOGEPA</td>
<td>Netherlands Oil and Gas Exploration and Production Association</td>
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<tr>
<td>NOK</td>
<td>kroner (Norway)</td>
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<tr>
<td>NOPSEMA</td>
<td>National Offshore Petroleum Safety and Environmental Management Authority (Australia)</td>
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<tr>
<td>Nordic Convention</td>
<td>Nordic Environmental Protection Convention</td>
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<tr>
<td>NPCA</td>
<td>Norwegian Pollution Control Authority</td>
</tr>
<tr>
<td>NPD</td>
<td>Norwegian Petroleum Directorate</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System (US)</td>
</tr>
<tr>
<td>NPFC</td>
<td>National Pollution Fund Centre (US)</td>
</tr>
<tr>
<td>NRC</td>
<td>Nuclear Regulatory Commission</td>
</tr>
<tr>
<td>NSOAF</td>
<td>North Sea Offshore Authorities Forum</td>
</tr>
<tr>
<td>OCES</td>
<td>Operators’ Co-operative Emergency Services</td>
</tr>
<tr>
<td>OCIL</td>
<td>Oil Casualty Insurance Limited</td>
</tr>
<tr>
<td>OCS</td>
<td>outer continental shelf</td>
</tr>
<tr>
<td>OCSLA</td>
<td>Outer Continental Shelf Lands Act</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OEE</td>
<td>operators extra expense (insurance policy)</td>
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<tr>
<td>Offshore Protocol</td>
<td>Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and Its Subsoil, 1994</td>
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<tr>
<td>OGP</td>
<td>International Association of Oil and Gas Producers</td>
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<tr>
<td>OIL</td>
<td>Oil Insurance Limited</td>
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<tr>
<td>OOG</td>
<td>Overlegorgaan Olie en Gas (Netherlands)</td>
</tr>
<tr>
<td>OPA</td>
<td>Oil Pollution Act 1990 (US)</td>
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</table>
LIST OF ABBREVIATIONS

OPEC Organization of the Petroleum Exporting Countries
OPEP Oil Pollution Emergency Plan (UK)
OPGGSSA Offshore Petroleum and Greenhouse Gas Storage Act (Australia)
OPOL Offshore Pollution Liability Agreement
OPRC Convention International Convention on Oil Pollution Preparedness, Response, and Cooperation 1990
OSCAR Oil Spill Contingency and Response
OSFR Oil Spill Financial Responsibility for Offshore Facilities
OSIS Oil Spill Information System
OSLTF Oil Spill Liability Trust Fund (US)
OSPAR Convention Convention for the Protection of the Marine Environment of the North-East Atlantic of 1992
OSPRAG Oil Spill Prevention and Response Advisory Group
PAA Price-Anderson Act (US)
P&I Clubs Protection and Indemnity Clubs
PSA Petroleum Safety Authority (Norway)
PTTEP PTT exploration and production
PTTEP AA PTTEP Australasia
RCV replacement-cost value
REG regulation
RWC restricted work cases
RWS NZ Rijkswaterstaat Noordzee (Netherlands)
SDFI State’s Direct Financial Interest (Norway)
SDR Special Drawing Rights
SEC Securities and Exchange Commission
SEMS Safety and Environmental Management System
SFS 1968:45 Swedish Nuclear Liability Act
SIR self-insured retention
SL strict liability
SLA Submerged Lands Act 1953
SOS sudden oil spill
SPV special-purpose vehicle
SSM State Supervision of Mines (Netherlands)
STOPIA Small Tanker Oil Pollution Indemnification Agreement
TOPIA Tanker Oil Pollution Indemnification Agreement
TOVALOP Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution
UK United Kingdom
UN United Nations
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<td><strong>LIST OF ABBREVIATIONS</strong></td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Program</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>US$</td>
<td>US dollars</td>
</tr>
<tr>
<td>VoOs</td>
<td>vessels of opportunity</td>
</tr>
<tr>
<td>WANO</td>
<td>World Association of Nuclear Operators</td>
</tr>
<tr>
<td>WELD</td>
<td>Willis Energy-Loss Database</td>
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<tr>
<td>WOAD</td>
<td>Worldwide Offshore Accident Databank</td>
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