

1. Corporate governance and risk management*

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I. INTRODUCTION

Major industrial accidents capable of leading to thousands of deaths, to large-scale environmental devastation and thus of affecting generations to come, raise the question of appropriate environmental policy tools to prevent or at least mitigate such disasters.

The Deepwater Horizon blowout in the Gulf of Mexico in 2010 is one example of such a disaster. It has triggered national and international as well as industry-wide reflection on the causes of such disasters, the ways and means of how to deal with them, and specifically on necessary regulatory or organizational approaches.¹ This debate has pinpointed a number of flaws both in the governmental control of the industry and in the industry's own structures and procedures relating to its health and environmental hazard management; it discovered 'systematic failures in risk management.'²

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¹ National Commission 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, 2011, 217 *et seq.*, accessed 16 December 2017, <https://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf> [hereinafter *Deepwater Horizon Oil Spill Report*]; Carolyn Windsor and Patty McNicholas, 'The BP Gulf Oil Spill: Public and Corporate Governance Failures,' 11th Australasian Centre for Social and Environmental Accounting Research (A-CSEAR) Conference (2012) accessed 16 December 2017, https://works.bepress.com/carolyn_windsor/19/; 'CSB: Offshore Risk Management, Regulatory Oversight Still Inadequate in Gulf,' *Industrial Safety & Hygiene News*, 14 April 2016, accessed 16 December 2017, <https://www.ishn.com/articles/103739-csb-offshore-risk-management-regulatory-oversight-still-inadequate-in-gulf>.

² National Academy of Sciences/Transportation Research Board, *Beyond*

This chapter will concentrate on the risk of industrial accidents and their consequences for human health and the environment, taking as a starting point the Deepwater Horizon disaster. Beyond accidents involving the offshore oil industry, it is the nuclear accidents of Chernobyl and Fukushima³ as well as the Bhopal gas leak of 1984⁴ that provide other relevant examples of tragic and notorious industrial disasters. Where relevant, the chapter, however, will also touch upon questions raised by other types of health and environmental risk, such as those resulting from the day-to-day operation of industrial facilities, mainly through routine discharges of pollutants, and the 'normal' use of manufactured products. The latter presents an issue relevant to the chemical, pharmaceutical as well as automobile industries, as recently shown by the so-called diesel emission scandal plaguing German automobile manufacturers.

A 'theory of tools' of environmental policy has been debated for decades, yet international and national discussions thereof are still going on, always confronting new challenges. The debate on the Deepwater Horizon oil spill points to a fundamental dichotomy.⁵ On the one hand, environmentally desirable behavior is induced through rules imposed from outside the sphere of an enterprise or other economic actor. Environmental law, both national and international, is an important driver of risk management.⁶ Environmental standards are established by public authorities or professional organizations, while governmental agencies take measures to ensure compliance with them. This may be achieved through command and control strategies or through economic instruments. On the other hand, environmentally desirable behavior may be induced from within, by

Compliance: Strengthening the Safety Culture of the Offshore Oil and Gas Industry (Washington, D.C., 2016), 3.

³ Sonja Sutter, 'Corporate Social Responsibility and Extreme Events: Example of Fukushima' (2011), accessed 27 April 2018, <http://csr.unige.ch/wp-content/uploads/2013/10/CSRandExtremeEvents-SonjaSutter.pdf>.

⁴ Ingrid Eckermann, *The Bhopal Saga: Causes and Consequences of the World's Largest Industrial Disaster* (India: Universities Press, 2005). Whether that disaster was caused by mismanagement or by sabotage is controversial. For a chronology of major chemical industry disasters worldwide see 'Chronik schwerer Chemieunfälle,' *Süddeutsche Zeitung*, 17 October 2016, accessed 16 December 2017, www.sueddeutsche.de/panorama/explosion-bei-basf-chronik-der-schwersten-chemieunfaelle-1.3209924.

⁵ Eckard Reh binder, 'Umweltsichernde Unternehmensorganisation' (2001) 165 *Zeitschrift für das gesamte Handels- und Wirtschaftsrecht* 1.

⁶ Jacqueline Peel, 'International Law at the Intersection of Environmental Protection and Risk Reduction' in Jacqueline Peel and David Fisher (eds), *The Role of International Environmental Law in Disaster Risk Reduction* (Nijhoff: Brill, 2016) 1, 7.

rules governing the internal functioning of an economic actor. These internal rules are a necessary complement of outside direction whose addressee is not a single natural person, but an organization (institution, association or corporation). The latter's organizational set-up must ensure, through an internal assignment of functions and competencies, that the regulatory signals coming from outside are received and that the organization behaves accordingly, that is, complies with the said signals. Yet beyond compliance with outside direction, these internal rules may pursue other social goals, sometimes anticipating outside direction. For corporations, this means corporate governance.

As to the protection of the environment, these rules reflect the fact that corporate governance has a definite impact on the environmental performance of an enterprise. Investigations conducted after major industrial accidents have regularly shown that one of the reasons for the disaster was mistakes in corporate governance.⁷ Analyses of the Deepwater Horizon oil spill indicate failures at both levels of environmental policy tools.

Rules relating to corporate governance may be part of outside direction, they may also constitute independent internal regulations. They consist of a diverse multitude of norms concerning the structure and functioning of enterprises. An important aspect of corporate governance is the respect of applicable rules, discussed under the heading of 'compliance'.⁸ In a narrow sense, compliance relates to applicable legal rules ('hard law'), but also to applicable non-legal rules ('soft law'). It may also relate to self-imposed, internal rules of the enterprise. It may relate to, moreover, but has to be distinguished from, rules prescribing behavior which takes into account the outside impact of a corporation's activities on society at large, including the environment, the 'social responsibility of enterprises'.⁹ These different aspects of corporate governance may become relevant for risk management in the sense of avoiding catastrophic incidents and dealing with the consequences thereof, if they occur.

There are, as will be shown, different regulatory approaches to achieve appropriate corporate governance: First, legal rules concerning the functioning of enterprises; second, non-legal rules concerning the functioning of enterprises and accepted by economic actors, generally styled codes,

⁷ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 217 *et seq.*; Sutter, *supra* note 3, 7, 25.

⁸ C Hauschka, K Moosmayer and T Lösler, 'Einführung' in Christoph E Hauschka, Klaus Moosmayer and Thomas Lösler (eds), *Corporate Compliance* (Munich: Beck, 2016) 3rd ed, 1, 6.

⁹ Birgit Spießhofer, 'Compliance und Corporate Social Responsibility' in Hauschka et al., *supra* note 8, 316 *et seq.*

including industry standards relating to the management of enterprises; and, third, relevant internal rules of enterprises which govern their internal functioning (also called ‘code’ or ‘policy’¹⁰), that is, self-regulation. The choice between these categories varies from country to country and may be controversial. There is, in particular, a dispute over whether industry self-policing or government regulation yields better results.¹¹ The bulk of relevant rules seems to belong to the second category, for example codes.¹² Examples are given below. An ‘optimal mix of regulation and voluntary activities’ is considered desirable.¹³

The existence of rules, of whatever quality they may be, is not the only element in a system of corporate governance capable of inducing avoidance of risk and environment-friendly behavior on the part of management. Management decisions tend to reflect diverse motives. Playing by the rules is not the only one, and sometimes the motive will be at odds with the rules. A deeper analysis of such inducements is beyond the scope of this chapter.¹⁴

2. DIFFERENT CONCEPTS AND DISCOURSES OF CORPORATE GOVERNANCE

Regarding the regulatory scene concerning corporate governance, differing concepts or emphases tend to influence, as already indicated, risk management differently. There is, on the one hand, a narrow economic, shareholder-oriented concept. It regards risk mainly as a financial or economic issue affecting profits. On the other hand, there is a broader concept that takes into account the impact of the enterprise’s activities on a number of societal values in the sense of corporate social responsibility. An example of the former is the OECD Code.¹⁵ Risk management in this context means economic, in particular, financial risk only. The code’s focus is shareholder value. This emphasis on financial benefits for a

¹⁰ See *infra* notes 33 and 34.

¹¹ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 234 *et seq.*

¹² For Great Britain the *UK Corporate Governance Code*; for Germany see *Deutscher Corporate Governance Kodex*.

¹³ *Beyond Compliance*, *supra* note 2, 14.

¹⁴ See Carl J Kock, Juan Santalo and Luis Diestre, ‘Corporate Governance and the Environment: What Type of Governance Creates Green Companies?’ (2012) 49 *Journal of Management Studies* 492.

¹⁵ OECD, *OECD Principles of Corporate Governance* (2004), accessed 11 May 2018, <http://www.oecd.org/corporate/ca/corporategovernanceprinciples/31557724.pdf>.

company is also a basic flaw of certain remuneration policies. In relation to the Deepwater Horizon oil spill, BP's policies in this regard were, for instance, criticized as too shareholder value-oriented, leading to a cut in the company's budget for safety and maintenance.¹⁶

However, notwithstanding the great conceptual difference in these approaches, the result concerning environmental protection may not be that great, as damage to the environment and other costs of disasters in the end may result in financial cost for the enterprise. Health and environmental risks most often imply also a financial risk. The financial consequences of the Deepwater Horizon oil spill brought BP close to insolvency.¹⁷ Other examples are the sizable payments Exxon Mobile had to make after the Exxon Valdez accident (clean-up cost, criminal fines, private claims, together more than three billion USD)¹⁸ or the huge payments for fines and private claims to be made by Volkswagen as a consequence of the disregard for environmental law in the diesel scandal. Such outcomes are a source of controversy between shareholders and management, which in the case of Volkswagen led shareholders to obtain a court injunction obliging management to accept an independent investigation.¹⁹

Several different interests may be affected by a company's activities. A modern enlightened concept of corporate governance thus introduces a broader view of interests which have to be taken into account by the management of a corporation, including especially those captured global development policies. Promotion of sustainable development by all relevant actors includes a social responsibility of the business community, which covers, inter alia, human rights and environmental concerns. It has found a prominent expression in the 'Global Compact',²⁰ a network organization connecting the United Nations and the international business community, initiated by UN Secretary-General Kofi Annan in 1999 with a governance structure created in 2005. The Global Compact has formulated ten principles,²¹ three of which address specific environmental concerns.²² The Global Compact cooperates inter alia with the International

¹⁶ Windsor, *supra* note 1, 27 *et seq.*

¹⁷ *Id.* 26.

¹⁸ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 231 *et seq.*

¹⁹ Zeit Online, 'Der Abgasskandal,' 30 January 2018, accessed 11 May 2018, <http://www.zeit.de/wirtschaft/diesel-skandal-volkswagen-abgase>.

²⁰ For information see www.unglobalcompact.org; for support by the UN General Assembly see in particular Resolution 70/224, 22 December 2015.

²¹ United Nations Global Compact, *Ten Principles of the UN Global Compact*, accessed 18 May 2018, www.unglobalcompact.org/what-is-gc/mission/principles.

²² They commit businesses to: 'support a precautionary approach to environmental challenges' (Principle 7); 'undertake initiatives to promote greater environ-

Finance Corporation (IFC), a World Bank institution, which has formulated its own relevant principles. As a programmatic document ‘Corporate Governance. The Foundation for Corporate Citizenship and Sustainable Business’²³ points out:

A new vision of business is emerging – one where a set of core values, encompassing human rights, environmental protection and anti-corruption measures, guide the board’s oversight, relationship with the management, and accountability to shareowners.

This new business perspective is reflected in several additional measures. Companies do not only publish business reports required by company law, they also produce a ‘sustainability report.’ This has been instigated by a non-governmental organization, the Global Reporting Initiative (GRI) founded in the US in 1997. It promotes and sets standards for sustainability reporting worldwide. A sustainability report is published by a company about the economic, environmental or social impacts of its activities. Thus, this report covers a broad range of values and interests affected by a company. Currently, 92 percent of the world’s 250 largest companies report on their sustainability performance. GRI cooperates also with the Global Compact.²⁴ Avoiding accidents causing environmental degradation is part of sustainability. Whether the reported performance always corresponds to reality is another question.²⁵ In relation to the Deepwater Horizon oil spill, BP’s sustainability claim was criticized as being simply greenwash.²⁶

This notion of appropriate corporate behavior or corporate governance has led to a new concept, namely corporate social responsibility (CSR).²⁷ Its foundational international instruments are, besides the

mental responsibility’ (Principle 8); and ‘encourage the development and diffusion of environmentally friendly technologies’ (Principle 9).

²³ The Global Compact, *Corporate Governance: The Foundation for Corporate Citizenship and Sustainable Businesses*, accessed 18 May 2018, https://www.unglobalcompact.org/docs/issues_doc/Corporate_Governance/Corporate_Governance_IFC_UNGC.pdf.

²⁴ Information available at the GRI website www.globalreporting.org.

²⁵ For a critical comparison of Tepco’s (the company that owns the disaster stricken reactors Fukushima) pre-disaster sustainability report and the realities of the accident, see Sutter, *supra* note 3, 3 *et seq.*

²⁶ Windsor, *supra* note 1, 26 *et seq.*; see also *Deepwater Horizon Oil Spill Report*, *supra* note 1, 218.

²⁷ See SpieBhofer, *supra* note 9, 315–33; for an historic overview see Jeroen Veldman, ‘Responsibility and the Modern Corporation’ in Jean J du Plessis, Umakanth Varottil and Jeroen Veldman (eds), *Globalisation of Corporate Social*

Global Compact, the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy and the OECD Guidelines for Multinational Enterprises. Inspired by these documents, the European Commission has presented a Green Paper²⁸ and a Communication²⁹ for promoting an EU strategy for CSR.

CSR is described as a concept ‘whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders.’³⁰

While the 2001 Green Paper stresses the voluntary character of enterprise action in the CSR definition, this is no longer true of the 2011 Communication. Enterprises are at least ‘encouraged’ to follow the CSR requirements. In addition, the EU has adopted a number of legal instruments dealing with particular CSR related aspects.³¹ A norm specifically addressing CSR is the Directive on ‘disclosure of non-financial and diversity information by certain large undertakings and groups.’³² The introductory paragraphs emphasize ‘the importance of business divulging information on sustainability such as social and environmental factors. . . .’ It requires businesses of a certain size to publish a consolidated non-financial statement (Art. 29a). The statement must, inter alia, include information on a ‘group’s development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters, including . . . the principal risks relating to those matters. . . .’

To conclude, taking into account environmental as well as health and safety concerns, including the management of risks threatening these concerns, such as offshore blowouts, is an important part of the concept of CSR. This is important for corporate governance and risk management.

Responsibility and Its Impact on Corporate Governance (Cham: Springer International, 2018) 77–92.

²⁸ EU, *Green Paper: Promoting a European Framework for Corporate Social Responsibility*, COM 366 final (Brussels, 2001).

²⁹ EU, *A Renewed EU strategy 2011–14 for Corporate Social Responsibility*, COM 681 final (Brussels, 2011).

³⁰ *Supra* note 28, para 20.

³¹ Spießhofer, *supra* note 9, 328 *et seq.*

³² Directive 2014/95/EU of the European Parliament and of the Council amending Directive 2913/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups.

3. CORPORATE GOVERNANCE AND COMPLIANCE

Compliance with applicable norms is a major element of corporate governance. It can cover a broad range of rules of behavior which the personnel of enterprises have to respect. Respect of applicable legal rules (hard law) is the minimum required. The changing concept of corporate governance, in particular CSR, includes a broader range of norms which have to be complied with. This is reflected in rules of compliance developed by various enterprises. Enterprises formulate these rules in a 'code of conduct' or a 'compliance program.'

One example is the compliance program issued by BASF, the world's largest chemical producer. This program is formulated in a code of conduct binding all employees and managers worldwide³³ and covers a variety of interests which have to be taken into account. It contains different chapters on protection of company property and property of business partners, gifts and entertainment, antitrust legislation, human rights, labor and social standards, conflicts of interest, money laundering, information protection and insider trading laws, corruption, imports and exports, protection of environment, health and safety, and protection of data privacy. In its chapter on 'protection of environment, health and safety,' the code maintains that:

BASF often goes beyond the minimum requirements of existing laws and constantly strives to improve procedures and processes to further minimize our environmental impact and prevent health risks. However, if incidents or plant malfunctions nevertheless occur, the relevant corporate units must be immediately and comprehensively informed. The goal is to initiate the appropriate emergency response and damage repair measures as promptly and as precisely as possible.

There is a system of monitoring adherence to the compliance principles. A Chief Compliance Officer reports directly to the Board of Executive Directors and is supported by 104 compliance officers worldwide. The Corporate Audit department also monitors adherence to compliance principles.

Along the same lines, Bayer, another major chemical producer, has issued a 'Global Corporate Compliance Policy.'³⁴ It provides, inter alia, for a similar compliance organization.

³³ BASF Global, *Code of Conduct: Compliance Program of the BASF Group*, accessed 11 May 2018, www.basf.com/en/company/about-us/management/code-of-conduct.html.

³⁴ Accessed 16 December 2017, https://www.bayer.com/downloads/corporate_compliance_english.pdf.

Finally, BP's new post-Deepwater Horizon policy statement lists as the company's health, safety, security and environment goals 'no accidents, no harm to people and no damage to the environment.'³⁵ Yet it is still not generally accepted that BP is really on the way to 'rebirth and reform.'³⁶

Certain general trends of corporate governance can be derived from the above policy documents: A modern, enlightened concept of corporate governance includes in compliance programs concerns for the health and safety of persons inside and outside a company's installations as well as a concern for the environment. This concern must be implemented through organizational measures. These measures may vary from corporation to corporation, depending on a number of factors. One way to achieve the objective is through a concentration of compliance responsibilities, usually in a high-level person at the top of a compliance hierarchy. It is important that this compliance hierarchy, while separate from other decision-making processes, has direct access to the highest level of a company's decision-makers. The transparency of a company's adherence to such enlightened corporate governance should be ensured by way of sustainability reporting as mentioned above.³⁷

4. CORPORATE GOVERNANCE, COMPLIANCE AND RISK MANAGEMENT

The concern for health and safety as well as for the environment requires that possible future damage caused by activities of a company, or, to put it differently, health, safety and environmental risks, are duly taken into account in any management decision. Appropriate risk management is part of corporate governance and in particular of compliance concepts,

³⁵ BP, *BP Sustainability Report 21* (2016) accessed 11 May 2018, https://www.bp.com/content/dam/bp-country/en_gb/united-kingdom/pdf/bp-sustainability-report-2016.pdf; BP, *Our Code: Our Responsibility 9* (2017) accessed 11 May 2018, <https://www.bp.com/content/dam/bp/pdf/about-bp/code-of-conduct/bp-code-of-conduct-english.pdf>.

³⁶ Leon Kaye, 'Five Years after Deepwater Horizon: Can BP Repair its Reputation?,' *Sustainable Brands*, 19 February 2015, accessed 11 May 2018, http://www.sustainablebrands.com/news_and_views/marketing_comms/leon_kaye/five_years_after_deepwater_horizon_can_bp_repair_its_reputa. For a sharply critical view of BP's corporate governance claims see, e.g., Tom Young, 'BP and its "Code of Conduct,"' *The Legal Examiner*, 31 March 2014, accessed 11 May 2018, <http://neworleans.legalexaminer.com/toxic-substances/bp-and-its-code-of-conduct/>.

³⁷ See *supra* note 24. On the example of Tepco's sustainability report see Sutter, *supra* note 3, 3 *et seq.*

but also of CSR. Where appropriate, it is also part of sustainability reporting.³⁸ It implies a number of problems which have to be addressed and solved, in particular, the identification of relevant risk and preparedness to deal with them. Enterprises address these issues through appropriate organizational measures, in particular through internal controls.³⁹ This is a crucial issue for corporate governance.

How can it be ensured that relevant risks are identified and addressed? This implies, first, a comprehensive definition of relevant risks. This is an error-prone requirement. Tepeco's risk management and accident prevention measures taken before the 2011 Fukushima disaster were claimed to pay due regard to the risk of seismic events.⁴⁰ Yet they ignored the possibility of a magnitude 9 earthquake, and did not even mention either the possibility of a tsunami, or the worst case scenario of a nuclear meltdown.⁴¹ A related problem appeared in the Deepwater Horizon accident: decision-making regarding the well was too compartmentalized so that no decision-maker had the overall risk situation in mind which involved many different, yet concurring causes.⁴²

In this context, environmental risks are often considered as 'non-financial.' But any non-financial damage becomes a financial one if the company is liable to compensate the damage.⁴³ To that extent, the question of 'social' responsibility arises only if no liability is triggered by a certain damage. Modern environmental law, however, provides for the internalization of external costs through the polluter pays principle, in particular by rules on liability and compensation.⁴⁴ Thus, the borderline

³⁸ Id.; examples include *BMW Group Sustainable Value Report 2016*, 5.3, accessed 26 December 2017, www.bmwgroup.com/content/dam/bmw-group-websites/bmwgroup_com/ir/downloads/en/2; BASF, *BASF Report 2016: Economic, Environmental and Social Performance*, accessed 16 December 2017, https://www.basf.com/documents/corp/en/about-us/publications/reports/2017/BASF_Report_2016.pdf.

³⁹ See, e.g., Thyssenkrupp, *Corporate Governance Bericht* (2017), accessed 11 May 2018, www.thyssenkrupp.com/de/unternehmen/management/corporate-governance/corporate-governance-bericht.html; *BASF Report*, *supra* note 38, 135.

⁴⁰ Sutter, *supra* note 3, 5.

⁴¹ Id. 7.

⁴² *Deepwater Horizon Oil Spill Report*, *supra* note 1, 223.

⁴³ See *supra* note 18.

⁴⁴ For an overview and critical analysis see Michael G Faure, 'Liability and Compensation as Instruments of Disaster Risk Reduction' in Peel and Fisher (eds), *supra* note 6, 266–97. Relevant legal instruments are: EU Environmental Liability Directive (Directive 2004/35/CE of the European Parliament and the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage); German Environmental Liability Act

between a shareholder value approach and CSR becomes blurred. In its 2015 corporate governance report, BP distinguishes between financial and non-financial risk. The BP board has formed a 'safety, ethics and environment assurance committee' to address what it calls non-financial risk.⁴⁵ Yet this has been criticized⁴⁶ because the long history of BP oil drilling accidents shows that safety problems have serious financial implications so that safety risks cannot really be described as 'non-financial.'

Based on past experience, it is possible to draft a kind of scheme of risk management. As already indicated, the details vary from enterprise to enterprise. A first step is the identification of risks. It requires both problem awareness and a willingness to react to a risk once it is identified.⁴⁷ The first requirement implies that risks must be identified as early as possible. This starts with the very design of a project likely to entail risk. In this sense, it was claimed that the beginning of the Deepwater Horizon blowout was the design of the well, and the mistakes made at this point.⁴⁸ In addition, the requirement involves the training of those handling risk-entailing activities⁴⁹ and the cooperation of different relevant actors in charge of different causes of risk.⁵⁰ An important tool for identifying risks is the taking into account of the experience of previous malfunctions and accidents, in other words, an appropriate 'lessons learned' process undertaken after each relevant event. Indeed, the inadequacy of lessons learned processes after previous accidents involving BP facilities has been deemed one of the reasons of the Deepwater Horizon oil spill.⁵¹

The identification of relevant risks is a necessary precondition for preparedness. Good corporate governance requires that the enterprise has the human and physical resources to deal with a risk, that is, to prevent damage from occurring, to mitigate it if it occurs and to repair it after it has occurred. In the final report dealing with the Deepwater Horizon accident, it is claimed that the accident could have been prevented by using available technologies. Models are discussed to ensure that relevant decision-makers are aware of the risk and of available technology to avert

(Umwelthaftungsgesetz of 10 December 1990, BGBl. 1990 I, 2634, as amended).

⁴⁵ *BP Annual Report 2015*, Corporate governance, 71.

⁴⁶ Robbins Geller Rudman & Dowd LLP, 'The High Cost of BP's Lack of Corporate Governance,' accessed 5 November 2012, <https://www.rgrdlaw.com/news-item-BP-Corporate-Governance-110512.html>.

⁴⁷ *Beyond Compliance*, *supra* note 2, 11.

⁴⁸ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 223, 230.

⁴⁹ On the importance of training, see for instance the *BASF Report*, *supra* note 38, 134.

⁵⁰ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 223.

⁵¹ *Id.* 221.

it, and use it.⁵² Therefore, risk analysis is an important element of a good environmental impact assessment.⁵³

Risk preparedness also requires a willingness to identify a risk and to deal with it. This is far from being a banality. There is the practical problem that those having operational responsibilities will rather be inclined to give the continued operation of an installation priority over slowing it down to deal with a risk. Profit maximization can be an important motivation for neglecting risk factors or even disregarding environmental concerns. Therefore, monitoring the normal activities in the light of risk factors is important. It has to be done by persons who are not involved in the normal decision-making process and enjoy sufficient independence. This monitoring may be prescribed by the internal rules of an enterprise, it may also be prescribed by law. Monitoring means a system of internal controls. Insufficient internal controls account for a number of disasters which have occurred. For instance in the case of the Deepwater Horizon disaster, it has been alleged that BP's internal controls were de facto not strict enough.⁵⁴ The same holds true for Tepco's insufficient internal controls before the Fukushima disaster, which included falsified reporting.⁵⁵ There is thus a crucial task for compliance officers and a corporation's compliance system. An important means to render monitoring more effective is a separation of operation and monitoring, for instance by entrusting the monitoring task to an independent expert.⁵⁶

If damage has occurred or is likely to occur, those affected by it must be made aware of the danger. Thus, appropriate warning is an important element of risk management. In addition, cooperation with outside actors affected by the damage is essential. For instance, an enterprise may have a much better knowledge of the possibilities of how to fight a disaster than the ignorant victim.

As damage caused by malfunctions or accidents cannot be excluded, enterprises must also prepare to face the financial consequences of such damage, as an important aspect of risk management. Proper insurance is therefore an important element of risk management.⁵⁷

⁵² Id. 224 *et seq.*

⁵³ See Dennis Edwards, 'Disaster Risk Assessment' in Peel and Fisher (eds), *supra* note 6, 154; see EU Directive 2011/92/EU, as amended by Directive 2014/52/EU PP 15 and Annex IV, no. 5.d.

⁵⁴ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 221.

⁵⁵ Sutter, *supra* note 3, 9.

⁵⁶ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 222.

⁵⁷ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 245. On obligatory insurance schemes as a tool for risk reduction see Faure, *supra* note 44, 295.

Identifying risks, monitoring risk preparedness, organizing appropriate reactions to an accident or malfunction, communicating with affected third parties – all these activities are special responsibilities which require a special assignment to especially responsible persons. This is the background of organizational structures, already described, which concentrate compliance tasks in a person having a high position in the organizational hierarchy. This is reflected in the compliance programs just described. Details vary from corporation to corporation, but there seem to be general trends.

Some corporations have assigned the task of compliance and law to one member of the board, his or her function being labeled ‘integrity and law.’ In order to avoid a conflict of interests, it is important that this person is not given, in addition to these functions, operational business responsibilities.⁵⁸ The chief compliance officer would directly report to him or her.⁵⁹ It is essential that the compliance officer has direct access to the top level management.⁶⁰ However, that person must also have a direct grip on lower level compliance officers, even if the latter belong to an independent subsidiary. A mixture of management and compliance monitoring functions is problematic as each one of these functions may conflict with the others.⁶¹ Such a concentration of compliance tasks relating to environmental or health and safety risks may also be required by law. An example is the German legislation requiring certain German enterprises to appoint special commissioners for environmental or nuclear risks.⁶² The names of appointees must be communicated to the relevant supervisory authorities.⁶³

The notification of relevant events to the authorities and to those who might be affected by the consequences of a malfunction or accident is a usual feature of environmental or nuclear legislation in many countries, and also in the European Union.⁶⁴ There are international treaties concerning the problem.⁶⁵ But it is also a question of appropriate corporate governance.

⁵⁸ Thomas Kremer, ‘Im Spannungsfeld: Zur Aufgabe des Compliance-Vorstands,’ *Der Betrieb*, Special Issue February 2017, 5 *et seq.*

⁵⁹ For Thyssenkrupp see the report, *supra* note 39; for *BASF Report*, *supra* note 38, 135.

⁶⁰ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 237.

⁶¹ *Id.* 230.

⁶² See Reh binder, *supra* note 5.

⁶³ Sec. 52b of the German Pollution Control Act (Bundesimmissionschutzgesetz).

⁶⁴ Directive 2012/18/EU, 4 July 2012, Art. 16–18, so-called Seveso III Directive.

⁶⁵ See Carl Bruch, ‘International Frameworks Governing Environmental Emergency Preparedness and Response’ in Peel and Fisher (eds), *supra* note 6,

A general procedural question relating to compliance and risk management is the position and representation of various interests affected by a company's activities vis-à-vis the decision-making process of the latter. Such interests may be represented by the persons who own them (stakeholder in the narrow sense, egoistic representation) or by public interest organizations (altruistic representation). As far as the early phases of risk management are concerned, namely planning and authorization of risk-creating installations, participation of such organizations in the proceedings conducted by the competent public authorities is prescribed by the law of most countries, although details vary.⁶⁶ Such participation is an important element of environmental impact assessment.⁶⁷ In later phases of the operation of installations, unless there is some kind of post-audit of the environmental impact assessment (EIA), such participation and representation is most often not systematically ensured by law. An important exception is the right to environmental information. From a formal point of view, this is an indirect encounter between an enterprise and certain stakeholders.

Transparency matters. In some cases of major disasters, a lack of transparency, a lack of communication with stakeholders, has been criticized and can even be identified as a reason for disasters.⁶⁸ Empirical research has shown that stakeholder participation in a company's decision-making process has the potential of promoting 'greener' management decisions.⁶⁹ It is significant in this connection that certain companies conduct voluntary public involvement programs.⁷⁰

370 *et seq.*; UNECE, Convention on the Transboundary Effects of Industrial Accidents, UNTS 2105, I-36605, 17 March 1992, Arts 9 and 10. The Convention currently has 41 parties, the US and Canada are not among them. In the case of a nuclear accident, the duty to provide information is stipulated in the Convention on Early Notification of Nuclear Accidents, IAEA INFCIRC/335, Vienna, 26 September 1986.

⁶⁶ For the EU see the IPPC Directive (Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control, Art. 4 (requirement of permit) and Art. 15 (access to information and public participation)).

⁶⁷ For the EU see the EIA Directive (Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment), as amended by Directive 2014/52/EU.

⁶⁸ On the Fukushima disaster, see Sutter, *supra* note 3, 9.

⁶⁹ Kock et al., *supra* note 14, 494.

⁷⁰ JoAnn Carmin, Nicole Darnall and Joao Mil-Homens, 'Stakeholder Involvement in the Design of U.S. Voluntary Environmental Programs: Does Sponsorship Matter?' (2003) 31 *The Policy Studies Journal* 527, 531 *et seq.*; see also *BP Sustainability Report*, *supra* note 35, 2.

5. CONCLUSIONS

In conclusion, the following principles for an effective corporate governance relating to risk management might be offered.

As to the regulatory framework, these requirements of corporate governance may be prescribed by law (international, regional, national), by international or national codes, or by internal rules of enterprises. Taken together, this framework must form an industry culture of safety and concerns for the environment.⁷¹ The policy documents quoted above are important for the formation of such culture. They must be taken seriously and rather than as a mere exercise in paying lip service.⁷²

The principles of effective corporate governance relating to risk management which have been developed in this chapter may be summarized as follows:

- a comprehensive approach to risk definition which includes all types of environmental and health hazards;
- an adequate procedural framework for dealing with all kinds of risks, including early identification, monitoring, countermeasures and if necessary financial consequences; and
- appropriate stakeholder participation.

A related issue is transparency. Appropriate risk management benefits from transparency. Transparency is a general requirement in many fields of industrial and other economic activity. It is an important tool in order to ensure that those affected by an activity are informed about its impact and can, where necessary, defend their interests. This constitutes at the same time an important incentive for those having responsibilities in an enterprise to pay due attention to the outside impact of their activity.

⁷¹ *Deepwater Horizon Oil Spill Report*, *supra* note 1, 218, 224, 243; Donatus Kaufmann, 'Compliance ist eine Frage der Haltung,' *Der Betrieb*, *supra* note 58, 8 *et seq.*; *Beyond Compliance*, *supra* note 2, 9. The diesel scandal involving a German automobile manufacturer was an apparently concerted disregard of such culture, see *Zeit Online*, *supra* note 19. For a recent very critical comment on the company's attitude see Claas Tatje, 'Operation heiße Luft,' *Die Zeit*, 14 December 2017, 25, accessed 11 May 2018, <https://www.zeit.de/2017/52/volkswagen-kulturwandel-abgasskandal-diesel-matthias-mueller>; for a sociological analysis of a sub-culture of deviance in a company see Markus Pohlmann, 'Der Abgasskandal in der deutschen Autoindustrie' (2017) *Ruperto Carola Forschungsmagazin* 87–93, with English summary, presenting a research project of the Max Weber Institute for Sociology of the University of Heidelberg.

⁷² See *Deepwater Horizon Oil Spill Report*, *supra* note 1, 218.

A final word on the international legal dimension of the question. The international dimensions of environmental disasters are obvious. Yet corporate governance has remained to a large extent a matter of national law and of industry self-regulation. A few international treaties dealing with specific aspects of the problem have been identified. Yet they do not deal with corporate governance as such, but rather generally with disaster preparedness, prevention and response. The important documents dealing with the core issues of governance belong to the field of soft law. In the light of the current reluctance to be observed in the international system relating to treaty making, a treaty on the issue of risk management and corporate governance is a distant prospect. Industry self-regulation will remain crucial. It is therefore the example of major transnational companies which will set the scene for appropriate risk management. It deserves therefore close scrutiny by the public at large.