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# The Norwegian HSE Regime

*Dag Erlend Henriksen\**

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## INTRODUCTION

Whether they take place in the harsh weather of the North Sea, the ultra-deep waters of the Norwegian Sea, or the arctic climate of the Barents Sea, offshore oil and gas activities on the Norwegian Continental Shelf (NCS) have given rise to a wide range of health, safety, and environment (HSE) issues. These hostile surroundings present challenges for the authorities charged with regulating occupational and environmental safety in the region. In order to account for acceptable risk levels, flexible legal requirements, and the continuous change that results from the industry's constant striving to reduce costs and improve technology, the Norwegian regulator has developed a performance-based legal framework.

It is important to note that exploration and production (E&P) activities on the NCS are carried out in license groups—a group of companies forming an unincorporated joint-venture who has been given a production license from the Ministry of Petroleum and Energy (MPE). Each individual participating company is referred to as a licensee. One of these licensees is appointed operator by the MPE. The operator carries out the day-to-day management of operations on behalf of the license group.

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*Editors' Note: As Mr. Henriksen is an expert in Norwegian petroleum law and the content of this article concerns Norwegian license terms, many of the cited sources are not available in English. The editors' of the LSU Journal of Energy Law & Resources have relied on Mr. Henriksen to verify those sources for accuracy.*

Under the Norwegian Petroleum Activities Act (PAA),<sup>1</sup> responsibility for compliance is placed firmly with the licensees, the operator, or other entities carrying out petroleum activities on the NCS. Moreover, the licensee must comply with the “see-to duty” under Section 10-6(2) of the PAA. Pursuant to this provision, the licensee has a separate obligation to ensure that both the operator and others engaged in activities on behalf of the licensee comply with regulatory requirements.

The HSE regime in Norway is performance-based in the sense that its provisions specify the performance or function to be attained or maintained—the so-called “functional requirements”—rather than stipulating specific demands or methods to be applied.

In this performance-based regulatory regime, a key factor to ensure compliance is the requirement upon licensees to establish, follow-up, and further develop a management system. The licensee management system translates the functional requirements into specific norms, decision-making processes, and roles and mandates for internal operations. It also provides the basis for carrying out internal audits of compliance, identifying deviations, and, if necessary, requiring mitigating actions.

Furthermore—and in contrast with many other jurisdictions—the Norwegian HSE regime applicable to offshore activities provides authority to several agencies in one single regulation, known as the Framework Regulations, even if the different authorities all have individual enabling acts as basis for their administrative powers. Thus, the Petroleum Safety Authority (PSA), the Environmental Directorate, and the Board of Health all apply the Frame Regulation as a legal basis for their supervisory activities.

The importance of the management system in the Norwegian HSE regime can hardly be exaggerated. This article underlines that importance and reflects the fact that compliance with the regime’s requirements is based upon internal control of the duty holders. Part I offers a brief historic review of the Norwegian regulatory regime. Part II provides an overview of the relevant HSE authorities. Part III explores the main features of the legal framework, and Part IV analyses the performance-based nature of Norway’s HSE regime.

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1. *See generally*, Act of 29 November 1996 no. 72 relating to scientific research and exploration for and exploitation of subsea natural resources other than petroleum resources.

## I. A BRIEF HISTORIC REVIEW: FROM PRESCRIPTIVE REGULATIONS TO PERFORMANCE-BASED REGULATIONS

At inception, the Norwegian HSE regime<sup>2</sup> was largely based on prescriptive regulations—direct regulatory obligations and prohibitions, aimed at achieving an acceptable level of safety.<sup>3</sup> The role of regulatory authorities under this regime was to establish specific requirements and to ensure that these requirements were adhered to through monitoring.

However, a safety regime based on prescriptive regulations carries certain drawbacks. It may create passive attitudes among companies, in the sense that it gives an incentive to wait for the authorities' inspection to identify errors or deficiencies and to direct correction thereof. Under this regime, the authorities can become a guarantor of compliance, an assignment demanding ample resources.

Furthermore, prescriptive regulations are less suitable for ensuring flexibility in the regulatory framework as a means to address new developments in the industry, thus impeding innovative thinking regarding safety-related issues<sup>4</sup> and deployment of new technology. Consequently, the Norwegian HSE regime has developed along two closely related lines. First, safety regulations have incorporated the concept of internal control. Second, the HSE regime has shifted from one based on prescriptive rules stipulating applicable methods to a regime comprising functional requirements.<sup>5</sup>

In the mid-seventies, the concept of “internal control” emerged on the NCS.<sup>6</sup> The internal control scheme implied that, in addition to complying with the often-vague requirements of regulations, the industry itself was required to define more specific norms applicable to certain activities through the establishment of a control system.<sup>7</sup> In the years that followed, the internal control continued to further develop and evolve on the NCS.

Parallel to the development of this concept placing responsibility for the identification of specific safety norms on the industry, performance-

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2. The initial 1967 Royal Decree (25 August 1967) on safety in exploring and drilling for sub-sea petroleum deposits was replaced by Royal Decrees 3 October 1975, 9 July 1976 on safety in offshore petroleum production, and 24 June 1977 on working environment in offshore petroleum exploration and production.

3. See Paul Bang & Olaf Thuestad, *Government-Enforced Self-Regulation: The Norwegian Case*, in Risk Governance of Offshore Oil and Gas Operations, 244 (Preben Hempel Lindøe et al. eds., 2014). See also, Knut Kaasen, *Safety Regulation on the Norwegian Continental Shelf*, in Risk Governance of Offshore Oil and Gas Operations, 166 (Preben Hempel Lindøe et al. eds., 2014).

4. Bang & Thuestad, *supra* note 3, at 250.

5. Kaasen, *supra* note 3, at 166–67.

6. *Id.*

7. *Id.*

based regulations emerged in the regulatory framework—provisions that only specify the performance or function to be attained or maintained.<sup>8</sup>

A cursory review of the history of NCS regulation reveals the evolution of the Norwegian HSE regime from one largely based on prescriptive regulations to one containing more goal-based requirements that are expressed in functional terms. In addition, the dialogue between the regulator and those being regulated has grown stronger.<sup>9</sup> The progression towards a regime with performance-based regulations has made the Norwegian HSE regime more adaptable to new developments in the industry.

## II. THE HSE AUTHORITIES

Under the Norwegian HSE regime, the PAA constitutes the principal source of authority. However, four other statutes play relevant roles: the Pollution Control Act,<sup>10</sup> the Working Environment Act,<sup>11</sup> the Fire and Explosion Act,<sup>12</sup> and the Energy Act.<sup>13</sup> The responsibility to follow up these acts and the regulations issued thereunder lies within various ministries and agencies. As such, a number of governmental agencies assume responsibility in administering the HSE regime. The following section provides an overview of the most important national regulatory authorities with regard to the administration and enforcement of the HSE regime.

### A. *The Role of the PSA*

The PSA acts as the main state governmental body in the field of offshore safety, coordinating the work exertion of other agencies involved in the regulatory framework pertaining to HSE in oil and gas activities on the NCS.

This authority follows explicitly from the Royal Decree that established the PSA.<sup>14</sup> The PSA areas of responsibility are technical and operational safety; emergency preparedness; and the working environment in the Norwegian petroleum industry. Safety comprises human life, health

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8. *Id.*

9. Bang & Thuestad, *supra* note 3.

10. Act relating to protection against pollution and relating to waste (the Pollution Control Act), 13. March 1981, nr. 6.

11. Act relating to working environment, working hours and employment protection, etc. (Working Environment Act), 14. December 2012, no. 80.

12. Act relating to protection against fire, explosion and accidents involving dangerous substances and relating to the fire department's rescue tasks (the Fire and Explosion Protection Act), 14. June 2002, no. 20.

13. Act relating to the generation, conversion, transmission, trading, distribution and use of energy etc. (Energy Act), 29. June 1990, no 50.

14. Royal Decree of 19 December, 2003, no. 1952, §§ 2, 3 (Nor.).

and welfare, the environment, asset integrity, and operational regularity. The PSA also monitors compliance, issues enforcement notices, imposes sanctions, and plays a key role in the process of pre-qualifying licensees.

*B. An Overview of Other Key Ministries and Directorates*

The Ministry of Petroleum and Energy (MPE) assumes responsibility for resource management—including licensing—and the petroleum sector as a whole. The MPE also manages the state's ownership interests in the publicly listed E&P company, Statoil ASA, Gassco AS, which operates the upstream pipeline network, and Petoro AS, which manages the State's Direct Financial Interest (SDFI) in the petroleum industry, and represents the state in all licenses in which the state holds a participating interest.<sup>15</sup>

The Norwegian Petroleum Directorate (NPD) is a subordinated directorate of the MPE and plays an important role in petroleum resource management. The NPD has the administrative authority over petroleum exploration and production on the Norwegian continental shelf; it also possesses powers to adopt certain regulations and make decisions pursuant to present petroleum legislation.<sup>16</sup>

The Ministry of Climate and Environment (MCE) maintains overall responsibility for environmental policies and protection in Norway and on the NCS. The Norwegian Environment Agency, a subordinate agency of the MCE, is tasked with inspection and enforcement responsibilities under the Pollution Control Act, as well as under the HSE regulations.<sup>17</sup>

The Ministry of Labor and Social Affairs (MLSA) assumes the overall responsibility for the working environment and for safety and emergency preparedness in the petroleum sector. The PSA acts as a subordinate agency of the MLSA and exercises administrative authority with respect to, *inter alia*, technical and operational safety and emergency preparedness.<sup>18</sup>

The Ministry of Finance retains overall responsibility for the taxation system of the petroleum sector and for the management of the Government Pension Fund Global. The Petroleum Tax Office, which comprises part of the Norwegian Tax Administration, is subordinated to the Ministry of Finance. Its main function is to ensure correct assessment and collection of the taxes imposed by the political authorities.<sup>19</sup>

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15. *State organization of petroleum activities*, NORWEGIAN PETROLEUM, <http://www.norskpetroleum.no/en/framework/state-organisation-of-petroleum-activites/> [<https://perma.cc/2Y42-3F6V>] (last visited February 5, 2016).

16. *Id.*

17. *Id.*

18. Kaasen, *supra* note 3, at 114.

19. *State organization of petroleum activities*, *supra* note 15.

The Ministry of Transport and Communications is responsible for preparedness and all responses to acute pollution in Norwegian waters. The Norwegian Coastal Administration, one of its subordinate agencies, covers governmental oil spill preparedness and response.<sup>20</sup>

Finally, the Ministry of Trade, Industry and Fisheries consults on the award of licenses, to facilitate coexistence between the petroleum and fisheries industries.<sup>21</sup>

This overview has illustrated that a number of national regulatory authorities are responsible for the administration and enforcement of the HSE regime in Norway. PSA assumes the responsibility of coordinating the activities and responsibilities of the other state bodies through agreements. The next section lays down the main features of the Norwegian HSE offshore legal framework.

### III. MAIN FEATURES OF THE LEGAL FRAMEWORK

The Norwegian HSE offshore legal framework includes acts, decrees and regulations issued pursuant to those acts,<sup>22</sup> and non-binding guidelines or standards. The fragmented nature of the regulatory framework on the NCS—covering both a specific act and more general acts and regulations—warrants a short presentation of the relevant laws and regulations in order to imbue a better understanding of its main structure.

#### A. *The PAA*

The principal act applicable to offshore petroleum activities on the NCS is the PAA. Several provisions in Chapters 9 and 10 of the PAA address the obligation to ensure that activities falling under the scope of the PAA are carried out in a safe and prudent manner.

One of the PAA's fundamental safety provisions, Section 9-1, sets out basic principles to guide companies in their work so that they may fulfill their HSE obligations. Section 9-1 requires that a high level of safety is obtained, maintained, and further developed in accordance with the technological development.<sup>23</sup> This provision provides an example of the design of a performance-based requirement under the Norwegian

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20. *Id.*

21. *Id.*

22. Kaasen, *supra* note 3, at 175.

23. MINISTRY OF PETROLEUM AND ENERGY, Act Relating to Petroleum Activities, § 9-1 (Nov. 29, 1996) (last amended June 19, 2015) (Nor.) (“The petroleum activities shall be conducted in such manner as to enable a *high level of safety* to be *maintained* and *further developed* in accordance with the technological development.” (emphasis added)).

regulatory regime as it clearly states that the required level of safety will be adapted as the relevant technology develops. Further, an important function of this provision is that it serves as the basis for further regulations issued under the PAA pertaining to the mandatory management system.

Because the E&P business poses major risks to both personnel and the environment, Section 10-1 of the PAA requires that companies carry out activities on the NCS in a prudent manner.<sup>24</sup> The wording of this provision is very vague, however, it will be relevant when interpreting other more specific provisions in regulations issued under Norwegian administrative law.

In addition to the aforementioned provisions of the PAA, Section 10-6, Paragraph 1, and Section 17 of the regulation relating to HSE in petroleum activities offshore and at certain onshore facilities (the Framework Regulations),<sup>25</sup> specify that licensees and other entities engaged in petroleum activities on the NCS shall comply with the PAA through implementation of necessary systematic measures. Moreover, pursuant to Section 10-6, Paragraph 2 of the PAA and Section 7 of the Framework Regulations, those subject to the legislation must ensure that those performing work for them comply with the requirements set forth in the petroleum legislation. This responsibility is referred to as the “see-to duty”—the duty for licensees to ensure that operators and others are in compliance.

### *B. Other Related Acts*

The objective of the Working Environment Act (WEA) is, *inter alia*, to secure a working environment that provides the basis for a healthy and meaningful working situation that affords full safety from harmful physical and mental influences, as well as to ensure a standard of welfare at all times consistent with the level of technological and social development of society.<sup>26</sup>

However, the WEA is primarily applicable to onshore working environment issues. Consequently, employees working aboard a floating device engaged in petroleum activities fall outside the scope of the WEA. Instead, the 2007 Ship Safety and Security Act<sup>27</sup> and the 1977 Seamen’s

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24. *Id.* § 10-1 (“Petroleum activities according to this Act shall be conducted in a prudent manner . . . . The petroleum activities shall take due account of the safety of personnel, the environment and of the financial values which the facilities and vessels represent, including also operational availability.” (emphasis added)).

25. Regulations relating to health, safety and the environment in the Petroleum Activities and the environment in the petroleum activities and at certain onshore facilities (The Framework Regulations), 12. February 2010, nr. 158.

26. *See id.* § 1-1(a).

27. The Ship Safety and Security Act, 16. February 2007, nr. 9.



Act<sup>28</sup> ensure the working environment on-board for those workers laboring on floating platforms and other similar structures.<sup>29</sup>

The Act on Protection Against Pollution and on Waste (PCA) concerns pollution and waste issues. The main principle of the PCA is that it is unlawful to have, do or initiate anything that may cause a risk of pollution, unless a permit has been granted allowing the resulting pollution. PCA is a framework act, which implies that it stipulates main rules and principles applicable for all sectors, and grants power to establish detailed rules through regulations and discharge permits issued by the Pollution Control Authorities.

The PCA, along with the regulations and permits that apply on the NCS, provide a comprehensive regulatory regime aimed at reducing the risk of petroleum activities causing damage to the external environment.

### *C. The Five HSE Regulations*

Under the Norwegian performance-based HSE regime, a balance must be struck in the HSE regulations between legal clarity and distinctiveness on one side, and user flexibility and optimal operational freedom on the other. The legal obligations under the PAA are often vague and provide for wide discretionary powers to the authorities, and licensees are subject to more detailed obligations in regulations and non-binding guidelines.

A set of five regulations governing health, safety, and the environment has been issued under the PAA and the other relevant acts previously mentioned. These regulations, the result of continuous development over four decades, address specific risks and challenges connected to petroleum activities on the NCS. The regulations are drafted in a performance-based manner and are supported by non-binding guidelines.

The set of five regulations begins with the Framework Regulations, which provides a structure for offshore safety regulation.<sup>30</sup> It provides an overarching basis for the remaining four regulations: (1) the Management Regulations;<sup>31</sup> (2) the Facilities Regulations;<sup>32</sup> (3) the Activities

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28. Seamen's Act, 30. May 1975, nr. 18.

29. Kaasen, *supra* note 3, at 176.

30. Kaasen, *supra* note 3, at 178–79.

31. Regulations relating to management and the duty to provide information in the petroleum activities and at certain onshore facilities (The Management Regulations), 29. April 2010, nr. 611.

32. Regulations relating to design and outfitting of facilities, etc. in the petroleum activities (The Facilities Regulations), 29. April 2010, nr. 634.

Regulations;<sup>33</sup> and (4) Technical and Operational Regulations.<sup>34</sup> Each regulation governs a separate aspect of offshore safety.<sup>35</sup>

The Framework Regulations apply both offshore and onshore. It contains several provisions of a general nature, including the following matters: regulatory scope, assignment of party responsibility, risk-reduction, requirements for a good HSE culture, and the application of maritime regulations as an alternative to certain technical requirements in the petroleum regulations for mobile facilities.<sup>36</sup> The regulations also contain requirements relating to the management system, including the establishment, follow-up, and further development thereof.<sup>37</sup>

The risk reduction principles contained in the Framework Regulations provide that: (1) harm or danger to people, environment or material assets shall be prevented or limited; (2) risk shall be further reduced to the extent possible; (3) costs shall not be disproportionate to the risk reduction achieved; and (4) solutions that will reduce uncertainty as to effects shall be chosen.<sup>38</sup> Furthermore, the Framework Regulations implements certain special rules, issued pursuant to the WEA, which are relevant to offshore activities and include provisions regulating working hours, time off, and offshore tours. The Regulations further stipulate the right of employees to be involved in all processes that may have an impact on HSE in the sector.<sup>39</sup>

The Management Regulations apply both offshore and onshore, and govern all overall management requirements relating to HSE and specifies requirements for aspects such as risk reduction, barriers, management elements, resources and processes, analyses and measurements, and the handling of nonconformities and improvements. They also contain requirements relating to the material and information that must be submitted or made available to regulators.<sup>40</sup>

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33. Regulations Relating to Conducting Petroleum Activities (The Activities Regulations), 29. April 2010, nr. 613.

34. Regulations Relating to Technical and Operational Matters at Onshore Facilities in the Petroleum Activities, etc. (The Technical and Operational Regulations), 29. April 2010, nr. 612.

35. Kaasen, *supra* note 3, at 179.

36. *About the HSE regulations*, PETROLEUM SAFETY AUTHORITY NORWAY, <http://www.psa.no/about-the-hse-regulation/category929.html> [<https://perma.cc/Q2FW-2WGD>] (last visited July 6, 2015).

37. *Id.*

38. Regulations Relating to Health, Safety and the Environment in the Petroleum Activities and at Certain Onshore Facilities (The Framework Regulations), 12. February 2010, nr. 158, § 11.

39. Guidelines Regarding the Framework Regulations, last updated 16. December 2014.

40. Regulations relating to management and the duty to provide information in the petroleum activities and at certain onshore facilities (The Management Regulations), 29 April 2010, nr 611.

The Facilities Regulations only apply offshore, and contain provisions relating to the design and construction of E&P facilities. The regulation applies to all aspects of facilities, such as drilling and well systems, living quarters, production plans, diving facilities, load-bearing structures and pipeline systems, and the design, maintenance, and operation of the same.<sup>41</sup>

The main objectives duty holders must comply with when designing, constructing, ordering, operating and maintaining petroleum facilities include: (1) the major risk shall be as low as possible; (2) the possibility for human error shall be limited; (3) the main safety functions shall be maintained; (4) the lowest possible risk of pollution shall be facilitated; (5) requirements for the performance of individual barriers shall be defined; and finally (6) the measures taken to protect facilities against hazard and accident situations shall be based on a strategy.<sup>42</sup>

The Activities Regulations only apply offshore, and govern the way in which petroleum activities are carried out. The Regulations contain requirements specifically relating to different types of activities, such as drilling and well activities, maritime operations, lifting operations, maintenance and manned underwater operations. The Activities Regulations also specify requirements for the planning and execution of such activities, and stipulate operational pre-conditions for start-up of activities.

The regulatory requirements with respect to monitoring of the environment, waste handling, emissions to the environment and emergency preparedness are all set forth in the Activities Regulations.<sup>43</sup>

The Technical and Operational Regulations apply only to activities at certain onshore facilities.<sup>44</sup> The structure and content of these Regulations mirror that of the Facilities Regulations and the Activities Regulations.

### III. THE NORWEGIAN HSE REGIME—A PERFORMANCE-BASED REGIME

This Section will explain in greater detail the characteristics of a performance-based framework<sup>45</sup> and will explore some of the benefits and challenges of an HSE regime based on goal-setting requirements.<sup>46</sup>

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41. Regulations Relating to Design and Outfitting of Facilities, etc. in the Petroleum Activities (The Facilities Regulations), 29. April 2010, nr. 612.

42. *Id.* § 5.

43. Regulations relating to Conducting Petroleum Activities (The Activities Regulations), 29. April 2010, nr. 613.

44. Regulations Relating to Technical and Operational Matters at Onshore Facilities in the Petroleum Activities, etc. (The Technical and Operational Regulations), 29. April 2010, nr. 612, § 1.

45. (Sections 3.2-3.4).

46. (Sections 3.5 and 3.6).

### A. Performance-Based Regime

#### 1. *The Norwegian Regulator Provides the Objective, but not the Way to Get There*

A performance-based framework entails regulatory requirements that are embedded in general terms and primarily specifies the conditions or functions that must be met in order to comply with those requirements.

The responsibility to choose a method likely to achieve the required objective is placed on the industry.<sup>47</sup> The specific norms or methods that a company finds suitable in an individual case are identified on the basis of that company's internal control system. Licensees are also responsible for ensuring compliance by all involved parties with the regulations and legislation.<sup>48</sup> Although companies are free to select adequate solutions in the individual case, they are bound by official requirements and are obligated to prove that these requirements are met. The regulator may also impose administrative adjudication in individual cases, comprised of further details and specific methods to be applied in order to achieve the prescribed functions.<sup>49</sup>

Several non-binding guidelines and statements of interpretation offering comprehensive recommendations within their specific scope have been issued by different institutions in Norway and abroad. The guidelines and statements usually stipulate specified methods designed to achieve the results prescribed by the function standards, rather than just detailing the results. Some of the regulations recommend the use of these standards.<sup>50</sup>

#### 2. *Are the Non-Binding Guidelines Fully Perceived as Such in the Industry?*

The fact that the guidelines are non-binding does not imply that they are legally irrelevant. When using a standard recommended in the guidelines for compliance, one can, as stated in the Framework Regulations, "normally assume that the regulatory requirements have been met."<sup>51</sup> The wording indicates that unless specific circumstances strongly indicate otherwise,

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47. Bang & Thuestad, *supra* note 3, at 254.

48. *Id.*, at 249.

49. Kaasen, *supra* note 3, at 182.

50. Kaasen, *supra* note 3, at 184.

51. Regulations Relating to Health, Safety and the Environment in the Petroleum Activities and at Certain Onshore Facilities (The Framework Regulations), 12. February 2010, nr. 612, § 24.

companies will be presumed to be in full compliance with the relevant regulations if they choose recommended in the standards.<sup>52</sup>

This presumption does not mean that companies will automatically be in breach if they choose another method not suggested by the standard to achieve the prescribed results. When solutions other than those recommended are used, however, the onus is on the responsible party to document that the chosen solution fulfils the requirements. This rule follows explicitly from the Framework Regulations—the party responsible “shall be able to document that the chosen solution fulfills the regulatory requirements.”<sup>53</sup>

## *B. Benefits and Challenges with a Performance-Based HSE Regime*

### *1. The Authorities*

From the authorities’ point of view, a performance-based framework eliminates the need for constant revisions to the regulations as technology progresses and operating modes change. The system therefore does not require that the regulator apply the same amount of resources on continuous regulatory updating as we see in some jurisdictions where the HSE-requirements are prescriptive and require certain technologies, methods, or equipment to be used. The allocation of responsibility between the regulator and the duty-holders is also more distinct.

Nevertheless, a performance-based framework presents challenges for authorities, in that it requires that specialists keep abreast of and participate in the development and revision of industry standards in order to ensure the standards remain relevant and reflect best practices.

### *2. The Industry*

From the industry’s perspective, the flexibility that a performance-based framework provides poses both a benefit and a challenge. On the one hand, the flexible functional requirements give companies the freedom to select adequate solutions in individual cases. On the other hand, it may be demanding for companies in terms of expertise and management. Successful adoption depends on systematic efforts to develop practical details, which must be supported by detailed analyses of existing conditions. Required processes also implicate strategic and operational

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52. Kaasen, *supra* note 3, at 185.

53. Regulations Relating to Health, Safety and the Environment in the Petroleum Activities and at Certain Onshore Facilities (The Framework Regulations), 12. February 2010, nr. 612, § 24.

planning, progress monitoring, and corrective actions to address problems that arise.

*C. Conditions for a Performance-Based Regime as the Preferred Instrument for an HSE Regime*

A performance-based regime requires systematic efforts to develop normative requirements. Successful adoption by duty-holders depends on a vast array of divergent factors, including but not limited to the following:

- 1) Strategic and operational plans must be drawn up and incorporated into the management system of licensees.
- 2) Selected development measures must be implemented.
- 3) Progress of HSE performance indicators must be subject to continuous monitoring.
- 4) Corrective action must be taken when problems arise.
- 5) The relationship between the authorities and industry should be dialogue-based rather than command-control-based.
- 6) Authorities must employ staff with adequate competence and capacity.

These efforts must be based on detailed analyses of existing conditions and risk elements, participating companies' competence, industry ability to adapt to dynamic technological requirements, and experience from similar regimes. Participation of employees and authorities in the continuous follow-up and development of HSE-related work within the licensee's organizations is also a crucial element from which all three parties have benefitted. In the Norwegian HSE framework, this close collaboration is referred to as the "tripartite cooperation." The tripartite cooperation between HSE safety responsible line managers, employees or union representatives, and the authorities on a daily basis—as well as in more formal arenas like the Regulatory Forum—has become a key factor for the successful application of the Norwegian performance-based regime.

## CONCLUSION

The major and tragic accidents that occurred on the NCS prior to and during the early 1980s demonstrated not only to the regulator, but also to all other stakeholders, and the general public, the complex and risky nature of the oil and gas industry.<sup>54</sup> These experiences set forth the basis for development of a new regulatory and supervisory approach to HSE regulation in Norway.<sup>55</sup>

Pursuant to this new approach, the duty holders were provided the responsibility to ensure compliance through implementation of systematic measures—the internal control system.<sup>56</sup> The internal control system is a fundamental element in Norwegian safety regulation.<sup>57</sup> In accordance with this development, there was a shift from prescriptive regulatory requirements and prohibitions to provisions containing more goal-oriented requirements expressed in functional terms.

An integrated set of regulations—where one agency, the PSA, is appointed as the main body responsible for coordinating the work of other agencies independent from the resource management and licensing activities—is also a crucial element in the Norwegian HSE regime.<sup>58</sup> The main objective of this structure is to secure assessment of all issues relating to health, safety, and environment in an overall context, independently from any conflicts related to resource management.<sup>59</sup>

Through this performance-based and integrated HSE regime, rooted in participation and cooperation between the players involved, the Norwegian government has expressed its intention that the petroleum industry operating on the NCS shall lead the world in terms of safety, health, and the environment.<sup>60</sup>

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54. Bang & Thuestad, *supra* note 3, at 253.

55. *Id.* at 253–54.

56. *Id.* at 254.

57. Kaasen, *supra* note 3, at 167.

58. See Paul Bang, *Development of Safety, Health and Environment (SHE) Regulations for the Oil and Gas sector*, (2011) at 9.

59. *Id.* at 9.

60. *Id.* at 3.