



Regulating the intangible. Searching for safety culture in the Norwegian petroleum industry



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ABSTRACT

The way organizational culture can influence safety has been a topic in safety research and accident investigations for decades. This has led to an increasing interest from regulators to include the concept of safety culture into the sphere of risk regulation. In the Norwegian petroleum regulations, a requirement for a “sound health, safety and environment culture” was introduced in 2002. The article presents a qualitative study of the perceived effects of this requirement on safety, seen from the perspective of both the regulator and the regulated companies.

The study shows that introducing the concept of safety culture into regulation can have positive effects both within the regulated companies and within the regulator's own organization. While certainly not being suited for a “command and control” approach to regulation, requirements to a “sound HSE culture” serves as an important policy statement in Norwegian regulations. It influences the whole institutional field to explore new approaches to safety. Introducing the concept of safety (or HSE) culture into the regulatory vocabulary has served as a sensitizing concept for both the regulator and the industry, thereby increasing both parties' ability to address informal and systemic aspects of safety.

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1. Introduction

The way organizational (safety) cultures can influence upon safety-critical decisions, behaviour, interaction and communication has been extensively studied over the last three decades of safety research (e.g. Turner, 1978; Cox and Flin, 1998; Guldenmund, 2000; Richter and Koch, 2004; Hopkins, 2006; Reiman and Oedewald, 2006; Antonsen, 2009; Nævestad, 2010; Rollenhagen, 2010; Blazsin and Guldenmund, 2015). Furthermore, the concept of culture has been highlighted in numerous investigations into a wide variety of disasters, such as the train derailment at Sjørsøya in Norway in 2009 (AIBN, 2011), the Fukushima nuclear meltdown (NAIIC, 2012) and the terrorist attacks in Oslo in 2011 (NOU 2012: 14).

The link between organizational culture and safety has also caught the attention of regulatory authorities. When the interest in safety culture meets the field of risk regulation, an important question arises: Are the intangible aspects of safety and organization out of regulators' reach, or is it possible for regulators to influ-

ence safety cultures in the industry they are set to regulate? This question contains two rather different dimensions. Firstly, it has a *regulatory* dimension by addressing the limits to the aspects of safety that can be made an object of regulation. Secondly, it has an *organizational* or *cultural* dimension as it concerns the way the internal dynamics of an organization are influenced by external factors, i.e. regulation, actors and discourses in the organizations' institutional environment. We aim to shed light on both dimensions by discussing the perceived effects of introducing the concept of culture into the Norwegian petroleum regulations.

In analyzing this question, we stand on the shoulders of the work of Kringen (2008, 2013), Karlsen and Valen (2011), Grote and Weichbrodt (2013) and Le Coze and Wiig (2013), who have previously studied the attempt to regulate HSE culture in the Norwegian industry.

2. Culture and regulation in the Norwegian petroleum industry

The Norwegian petroleum regulations are based on an assumption that it is, in fact, possible to regulate the intangible as the regulations include a specific regulatory demand to companies' health, safety and environment (HSE) culture:

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A sound health, safety and environment culture that includes all phases and activity areas shall be encouraged through continuous work to reduce risk and improve health, safety and the environment.

[(Framework regulations §15)]

After including the requirement to HSE culture in the regulations in 2002, the Norwegian Petroleum Safety Authority (PSA) made the intentions of the requirement known through seminars, publications and other channels. PSA also released an advisory booklet aiming to clarify the relation between culture and HSE where it underlined that it is up to each company to define what is to constitute a “sound HSE culture”. This has led some authors to argue that the introduction of the concept in the framework regulation is more an instance of political rhetoric and “window dressing” than a basis for real regulatory practice (Karlsen and Valen, 2011). This indicates that the requirement for a sound HSE culture was highly controversial in the industry. Aiming to influence culture to some extent involves a break with the pervasive logic of accountability in regulation and safety management systems.¹

While the regulatory requirement uses the concept of HSE culture, our analysis focuses on the way the requirement has influenced measures related to safety. Thus, we have focused our analysis on a subset (safety) of the composite (HSE) that is covered by the requirement. The most important rationale behind this is that the ambition of the paper is to understand how using the concept of *culture* in regulation influences practices among the regulated companies. Focusing on the narrower concept of safety culture allows for a more focused analysis, and the possible differences between the way culture influences health, safety and environment are therefore not explored.

As the concept of safety (or HSE) culture has no agreed-upon definition, specifying government requirements to the cultures of organizations appears as a contradiction in terms. Given that it is hard to specify the meaning of safety culture, how do you perform regulatory supervision like audits or verifications of a company's culture? How can companies know whether they are actually in compliance or not? Last, but not least, how can you impose sanctions on a company, on the basis of the company not having the “right” culture? These are only a few of the questions that have been raised against the introduction of the requirement to a “sound HSE culture” in the Norwegian petroleum regulations.

These questions are certainly justified, particularly when regulation and regulatory supervision is seen as “command and control” activities aimed at verifying companies' compliance to a set of safety standards (Baldwin et al., 2012). While this is obviously an important part of a regulator's mandate and activity, this is not the only role regulators can play. As we will show, regulators can influence the practices of their industry by setting agendas and by introducing new concepts that broaden the approach to safety, both within the regulator and the regulated companies.

3. Regulation, culture and institutional context

The aim of this paper is to shed light on the relationship between regulation and safety culture. The theoretical toolbox needed to do this consists of three main strands of research: First, we will provide an overview of some of the literature on risk regulation. Second, the existing research into the link between safety culture and regulatory oversight will be briefly discussed. Third, we describe contributions from neo-institutional theory and

research, which provide important perspectives on the relationship between companies and their contexts.

3.1. Regulation

There are many reasons for regulating. Broadly stated, the stated goal of regulation of industrial risk is usually to avoid or control the unintended side effects that industrial activity may have for the safety and well-being of people and the environment (see e.g. Power, 2004). Regulation is, however, a concept rarely defined with precision (Hood et al., 1999). They suggest the following definition: “the use of authority (often in the hand of specialized agencies) to set and apply rules and standards” (Hood et al., 1999: 3). The key in this definition is that it is about governing through rules and standards. The term regulation, however, can entail different meanings. A restricted meaning of regulation will emphasize the application of a *set of commands* or rules by an agency that has been authorized for a certain purpose, while the most general meaning will include *all forms of social or economic influence*, including those that were not deliberately constructed as regulation (Baldwin et al. (2012:3). In the first sense, the role of the regulator is to perform inspections to find nonconformities, and the role of the regulated is to be compliant to rules and correct the nonconformities identified in inspections. In the latter sense, the role of the regulator becomes more blurry, as it will include more than just providing rules and performing inspections. The role of the regulator will be more related to the production of framework conditions conducive to the overall goals of regulation (e.g. Rosness et al., 2012). As the present study will elaborate, the relationship between the regulator and the regulated is not necessarily centered around questions of compliance and nonconformities alone.

3.1.1. Regulatory regimes

The differences in the meanings of the term regulation described by Baldwin et al. (2012) partly overlaps with descriptions of differences in regulatory regimes labeled as the *prescriptive* approach and the *performance-based* approach (Dahle et al., 2012). The *prescriptive approach* relies heavily on hard laws, legally binding rules often written in great detail and created by governmental agencies exercising the role of supervision. The second approach relies more on incorporating goal-oriented rules in the regulations by specifying performance level or desired outcomes expected by the regulator (Dahle et al., 2012).

The two types of regulatory regimes will entail different strategies of regulatory enforcement. The prescriptive approach to regulation is likely to be accompanied by a deterrence strategy of enforcements, where breaches of regulations are discouraged by utilizing penalties or legal sanctions. The performance-based approach emphasizes informal means of regulation, using methods involving education, diplomacy and persuasion (*ibid.*). The goal of this approach is to bring about compliance without resorting to sanctions or legal actions.

The Norwegian regulatory regime is strongly influenced by the latter approach, as it has been described as a form of “co-regulation” (Baram and Lindøe, 2014:35). This regulatory approach empowers the companies by giving the organizations the obligation to devise and implement their own safety system, referred to in Norway as *internal control* (Lindøe et al., 2012). Under this type of regime, the regulators avoid enacting detailed rules. Instead, they issue broadly stated legal standards and functional requirements when defining responsibilities of the enterprise. This, however, introduces the disadvantage of misinterpretation of regulatory requirements that are too broad or unclearly defined, something that we will discuss in relation to the industry's interpretation of the HSE culture regulations.

¹ Informal aspects of work, often important for safety, are hard to specify and define and tend to be “invisible” to the logic of accountability (see Almklov and Antonsen, 2014).

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