

THE SOCIAL CONSTRUCTION OF HSE CULTURE

The Case of Norwegian Petroleum

JAN ERIK KARLSEN

University of Stavanger, Norway.

HARALD VALEN

Finmark University College, Norway.

ABSTRACT

A long range and overall ambition of Norwegian authorities pertains the idea that Norwegian petroleum (read; offshore activities) is world leading when it comes to HSE. This paper challenges the realism and self-insight of this ambition, offering a more critical view on the excellence of new aspects of the Norwegian HSE regime. The paper describes and analyses the *HSE culture* of Norwegian petroleum seen as constituted and promoted by national rules and regulations, and proposes a set of research implications connected to the key concepts. The paper applies a discursive study design, using various sources of documentary information as basis for a discourse analysis.

1. INTRODUCTION

In 2001 the concept of HSE culture was adopted and implemented as part of Norwegian «Regulations relating to health, environment and safety in the petroleum activities» (i.e. the Framework Regulations). A main objective stated in §1 a) was to «further a high level as regards health, environment and safety in the petroleum activities».

Excellent HSE quality was perceived to be part of the «licence-to-operate». Still, some stakeholders hold grave doubts about the realism of such political statements. The Norwegian Petroleum Safety Authority (PSA) has at several occasions argued that this «world class» image does not hold up to reality, demanding that the industry has to make a quantum leap in order to reach such a stage of HSE excellence (c.f. «Principal signals» in text box). Despite 45 years of Norwegian offshore petroleum activities the HSE level is deemed sub-standard compared to government expectations and the self-declared leading edge reputation (Hansen 2006).

Principal signals

The Norwegian government's goal is for the national oil and gas sector to be a world leader in HSE. Strong and clear leadership, respect for the challenges, a reflective attitude and the ability to make good assessments will be needed before the industry can say with assurance it has reached that objective.

The challenges faced on the way to this goal are not going to diminish. Complexity is increasing, the level of activity is rising and the technological challenges are growing – while the NCS is also getting older and the supply of qualified personnel is decreasing.

Mr. Ognedal, Director general of the PSA (2008, p.4)

Seen with this hinterland of a HSE world leader ambition, Norwegian legal authorities issued in their Framework Regulations §11 a rather distinctive legislative statement, urging a company within this field to hold a «sound HSE culture». Thus, the legislative requirement appeared to be functional, i.e. that if no recommendation was given about how to meet this obligation, each company had to decide for itself how to do so. However, in terms of HSE culture as a concept, there has not been a national or international standard defining what it contained and how it was to be audited. This issue is of importance since the Petroleum Safety Authority of Norway (PSA) was obliged by the very same regulations to ensure that the companies conducted a sound HSE culture. From the perspective of this approach, the concept of HSE culture can be termed an audit concept (e.g. Power 1999).

Although the concept of HSE culture has been known as part of Norwegian HSE legislation for nearly a decade, it still appears as an intangible and insubstantial concept. As a result, a paradox emerges in that petroleum companies state that a sound HSE culture is vital, yet there are still differences in what they comprehend as defining and representing this state. In addition, there is no consensus as to what actions must be taken in order to achieve such a culture. The concept of HSE culture exists in a state of opacity; therefore it will need a conceptual identification if it is to be applicable as an audit issue. As an auditing authority thus far, the PSA has not been able to develop and define a practice regarding what HSE culture stands for as an audit concept. It has existed from a legislative perspective, as up to now without formally being audited as intended and obliged by the legislators.

This paper investigates what can be comprehended as a *genesis discourse* of HSE culture. The purpose is to analyse what the construction of the concept is based on in a Norwegian framework and the direction this analysis gives for penetrating its opacity. Fairclough (1995:97) points out that the objective of penetrating such opacity is to make the epistemological context of a social practice available to those who depend on it being effective:

«...to make visible through analysis, and to criticize, connections between properties of texts and social processes and relations (ideologies, power relations) which are generally not obvious to people who produce and interpret those texts, and whose effectiveness depends upon this opacity...».

This paper uses discourse analysis as a method to reveal how an epistemological context emerges as a social construction that creates a genesis discourse conducive to a conceptual identification. To demonstrate how this discourse is embedded in a Norwegian context in time and space that is of concern for a conceptual identification, Stinchcombe's (1968) functional form of historicist explanations is used as a framework to situate the genesis discourse and its implications.

2. DISCOURSE ANALYSIS

Discourse analysis as a method is used in this paper to approach the process of construction as the crucial dynamic of discourse; namely that it «signals an approach that is focused on action and practice» (Potter and Hepburn 2008:277). A process of construction implies two additional senses of construction; that discourse is constructed and constructive (ibid). The discourse being constructed, appears «in the sense that it is assembled from a range of different resources with different degrees of structural organization» (ibid), while as constructive it appears «in the sense that these assemblages of words, repertoires, and so on put together and stabilize versions of the world, of actions and events, of mental life and furniture» (ibid). Hence, we use discourse analysis as a mode of understanding the phenomenon of HSE culture.

Assuming HSE culture to be an intangible and insubstantial precept lacking conceptual identification implies that as an audit concept it is not seen as being constructive. Rather, it is a wobbly construction because of a «more or less unstable configuration of elements» (Fairclough 1992:93). This implies that HSE culture is unstable in the constitutive part of construction where it is constructed. From an analytical perspective, it refers to the historicist origin that can be termed the genesis discourse of a concept. Discourse analysis is based on analysing «where people use language to produce and consume texts» (Phillips and Schrøder 2005:278), and where the «connection between texts and social practice is mediated by discursive practice» (ibid).

Based on Fairclough (1992:73), Titscher et. al. (2000:152) outline an analytical framework founded on the three-dimensional conception of discourse, illustrated in figure 1. Within this framework the analysis encompasses three components; description, interpretation and explanation. *Description* is where the linguistic properties of texts are described applying text analysis, *interpretation* is where the relationship between the productive and interpretative processes of discursive practice and the texts is interpreted, and *explanation* is where the relationship between discursive practice and social practice is explained.

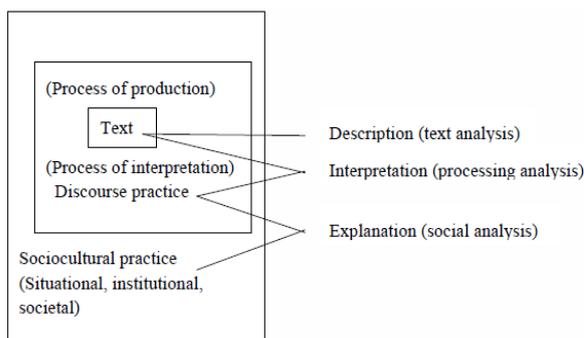


Figure 1. The framework of the three-dimensional conception of discourse.

What emerges as the genesis discourse in the three-component framework embedded in a larger totality of a discourse system is the phase of description and interpretation. This implies that in this phase we can analyse what the construction of the HSE culture concept is based on, as it relates to a Norwegian offshore context. Such an analysis gives direction for penetrating the opacity of the concept, i.e. revealing what social practices are likely to become constituted in terms of what is constructed. However, before carrying out such an analysis, we need to clarify the empirical basis (i.e. written material) that constitutes the genesis discourse of HSE culture and situates it in time and space. This is where Stinchcombe's (1968) functional form of historicist explanations earns its purpose in approaching a discourse analysis where text creates possible discourse events of importance.

3. THE GENESIS DISCOURSE PLACED IN THE FUNCTIONAL FORM OF HISTORICIST EXPLANATIONS

Stinchcombe (1968:106) explains the functional form of historicist explanations as illustrated in Figure 3. The genesis discourse, the phase of description and interpretation, is similar to the historical section of the time line, dealing with planning, learning or selecting a functional alternative. The part of Figure 2 subsequent to the functional alternative represents a similarity to the phase of interpretation and explanation in discourse analysis. This is where they are «put into play».

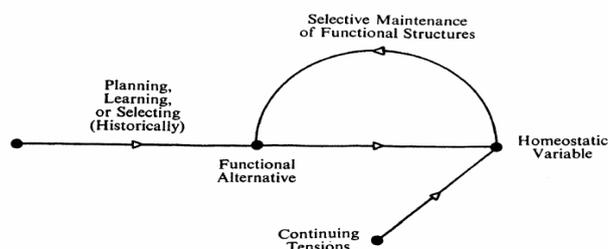


Figure 2. The functional form of historicist explanations.

The genesis is the starting point, i.e. it represents a historical cause of a functional alternative. In our case, the starting point is deemed the initial legislation of HSE culture. The regulations are seen as the empirical point of departure in both time and space. Empirically, it is Chapter III in the Framework Regulations that deals with «Principles relating to health, environment and safety», since this is where we find the HSE culture legislation and what is to be audited. Additionally, a Norwegian White Paper no. 7 (2001-2002) (NWP) «About health, environment and safety in the petroleum activity» addressed this topic. The reason for this NWP is for Norwegian authorities to explain what ambitions and direction the Framework Regulations were based on as part of the Norwegian legislation. However, neither of these two empirical texts encompassed an audit procedure of HSE culture. Instead, PSA developed and published a pamphlet in 2004 entitled «HSE and culture», which define the framework of an auditable approach to HSE culture. This booklet represents the (hitherto) empirical end point of the text, and as such, is assumed to represent the finality of the genesis discourse timeline as a historicist structure.

With regard to the total functional form of historicist explanations, the end point of genesis is assumed to terminate prior drivers. A constructed functional alternative of HSE culture emerges and starts to reinforce itself, as stated in the following argument by Stinchcombe (1968:105):

«which of a set of functional alternatives is found in a particular society is generally determined by historical events. But once a functional alternative becomes established, it tends to eliminate the causes of the other alternatives and thus to regenerate itself».

A pending challenge is that HSE culture as an audit concept has not yet been identified in the context of a functional alternative which establishes a discrete social practice. This implies that in reality the genesis discourse has not been terminated and is still under construction, i.e. implying a proviso that HSE culture is a manageable cultural organizational concept. The Norwegian legislation of this concept is founded on the assumption that higher levels of such a culture may be achieved through proper organizing and engineering and that the effect of such efforts can be audited, thereby reflecting a sound or unsound HSE culture. Such an approach is based on the idea that culture is something an organization *has* and is manageable as an «independent, ideational system» (Karlsen 2004:162). This view implies that a genesis discourse will actually create the HSE culture concept as a functional alternative with auditable features, albeit with an uncertainty in relation to how long a time period such a conceptualization requires.

The implication of a culture being something that an organization *has* as a basis for the legislation is of importance for our understanding. There is an opposing approach which states that «organizations *are* culture» (Karlsen 2004:162). The roles of organization members will be interpreted and influenced by cultural assumptions and values (Hatch 1993). Such an approach implies that organizational culture and the subsequent HSE culture are difficult to manage: «*Culture cannot be managed; it emerges. Leaders don't create cultures; members of the culture do*» (Martin 1985:95). The fact that the genesis discourse has not yet resulted in a functional alternative of past HSE culture could have been taken into account for this view of organizational culture, advancing the idea that it is a «mission impossible» to conceptualize HSE culture within the framework of emerging as an audit concept.

Nevertheless, there is a mid-range approach presented by Reason's (1997:192) definition of organizational culture, in which it appears as indirectly and partially manageable through its interaction with organizational structures: «Shared values (what is important) and beliefs (how things work) that interact with an organization's structures and control systems to produce behavioural norms (the way we do things around here)». Karlsen (2004:185) points out that the core values of an organizational culture must be regarded as being influenced by the interaction of an organization's technology, socio-structure and culture. This teleological approach opens a pathway to the possibility of establishing a functional alternative to the HSE culture concept based on strengthening features of the organizational structures that have specifically exerted an influence on it. Moreover, instead of closing further investigation, as would be the result of stating that the absence of a functional alternative to the HSE culture concept proves that organizational culture cannot be managed, it assists an in-depth investigation of the genesis discourse in detecting the traces it yields as a direction for conceptualization. Such an investigation will also be able to assess, given that the HSE culture concept is not yet audited as initially intended, a state of interaction between Norwegian authorities and the petroleum companies.

Arguably, the functional form of historicist explanations given by Stinchcombe (1968:106) implies that investigating genesis consists of using discourse analysis to interpret relevant written documentation. Even though acknowledging that the genesis is still in its making and that the functional alternative has not eliminated this phase of the genesis discourse, there are historicist texts available which can also be treated as having a theoretical and temporary end point. As previously described, the Framework Regulations define the starting point of the genesis discourse as illustrated in Fig.3.

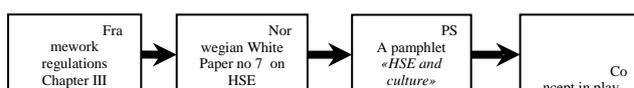


Figure 3. The empirical basis of the genesis of HSE culture concept.

The legislation is empirically followed by NWP no. 7 (2001-2002) and the pamphlet «HSE and culture» by the PSA (2004). Constituting a temporary genesis discourse then appears as the continuum illustrated in the figure, which consists of a specific empirically based text to interpret in which the initial directions for conceptualization of the HSE culture concept are thought to be present.

4. INTERPRETING THE TEXT OF THE GENESIS DISCOURSE OF HSE CULTURE; ANALYZING DIRECTIONS OF CONCEPTUALIZATION

HSE culture as a provision is explained in chapter III in the Framework Regulations dealing with «Principles relating to health, environment and safety». §11 under the heading ‘*Sound health, environment and safety culture*’ states:

«The party responsible shall encourage and promote a sound health, environment and safety culture comprising all activity areas and which contributes to achieving that everyone who takes part in petroleum activities takes on responsibility in relation to health, environment and safety, including also systematic development and improvement of health, environment and safety».

In the same chapter, § 7 deals with the ‘*Use of the principles of Chapter III*’, stating the audit approach to HSE culture and PSA’s obligation to carry it out:

«The licensee, the operator and others participating in the petroleum activities are, cf. Section 5 on responsibility according to these regulations, responsible that the principles in this chapter are complied with. These principles shall also serve as basis for the enforcement by the authorities of these regulations and regulations issued pursuant to these regulations. The supervisory authorities shall in particular see to that the exercise of authority according to the regulations and according to the individual provisions as a whole is in accordance with this chapter».

The guidelines of § 11 elaborate the conceptual baseline of what initially was meant to comprise a HSE culture concept, stating that:

«To ensure the success of the systematic effort needed to prevent faults and dangerous situations or undesired conditions arising or developing, and to limit pollution and injury to persons and damage to equipment, a favourable health, environment and safety culture must pervade all levels of the individual activity/establishment. A favourable health, environment and safety culture is also needed to ensure continual development and improvement of health, environment and safety. In order to make it clear that this section applies across the entire scope of application of the regulations, the expression ‘health, environment and safety culture’ is used instead of the more established term ‘safety culture’».

Thus referred §7 and §11 of the Framework Regulations provide insight into how the legislation of HSE culture was supposed to work in practice as an audit concept to be enforced by supervisory authorities, in this case the PSA. Using Stinchcombe’s (1968) functional form of historicist explanations, this can be depicted as shown in Figure 4.

The genesis discourse entails constituting and constructing HSE culture in terms of a social practice that in due time also appears as an audit responsibility. Once a functional HSE culture becomes established, it tends to eliminate the causes and drivers of the other alternative and thus to regenerate itself. So far, neither functional alternatives, nor any best practice has been deemed trendsetting or superior. This implies that the genesis discourse is stilling running.

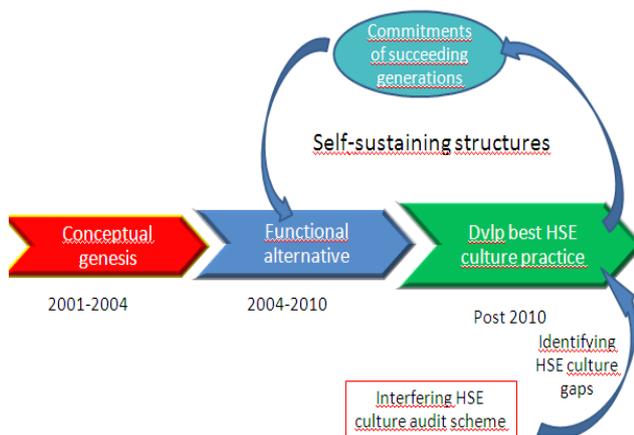


Figure 4. Illustrating the historicist explanation of the Norwegian legislation of the HSE culture concept

Through legislation, the PSA's obligation was only to be part of enforcement of HSE culture from the perspective of conducting an audit of the compliance carried out by petroleum companies. In the framework of Stinchcombe (1968:135) explanation they would then be part of the «structure activity» in the loop with an obliged task to audit the HSE cultural concept, while at the same time becoming part of a larger social context of stakeholders with a tensional influence with concern developing it against a state of best practice (Turner et al. 2009). Stinchcombe (1968:136) describes this tensional best practice development as a social construction in which variables of importance for the concept within the structural activity are strongly maintained, whereas «variables of smaller importance will have much weaker effects on encouraging functional structures».

This is to be understood in the framework that in practice all discourses consist of «unstable configurations of elements» (Fairclough 1992:93). This implies that when the genesis discourse is eliminated and has created a functional alternative of a concept that is to be put into play, the homeostatic state of it will be challenged in terms of an instability that forces a best development practice to take place and/or assures that it is legitimate in a social context.

The problem that occurred for the PSA was that there was no structural activity taking place because there was a lack of a firm conceptualization of the HSE culture concept. The Framework Regulations and NWP no. 7 (2001-2002) stated only a functional form for the legislation, based on a strategy for regulatory development in the petroleum sector as outlined in NWP no. 51 (1992-93). This strategy implies a reference to regulations that give guidelines of governance and operational issues, placing the responsibility of more detailed issues on the individual petroleum company. An underlying expectation in this practice is that the detailed issues are conducted with reference to industry standards and other documents of this nature. Unfortunately, there was no industry standard and standardizing document pertaining to HSE culture. Major international oil companies had already approached HSE culture or similar concepts such as, e.g. Shell's «Hearts and Minds» concept that can be traced back to 1984 as part of their enlightened self-interest with legitimizing activities that go beyond their legal responsibilities at the time the legislation was introduced (Hudson 2007). This implies that an array of HSE cultural-like social practices were already in existence concerning various operative schemes for describing and auditing HSE culture. To try to solve the problem of this array of what could be thought of as both representing HSE culture and the lack of standardization, the PSA placed them within the genesis discourse and tried to establish a hegemonic discourse in a specific direction as far as how to approach and define it. This was done in their pamphlet *HSE and culture* (2004).

When analysing the genesis discourse of HSE culture, this hegemonic discourse reveals a first indication of an empirical, textual path based on the roots of the concept. The most obvious underpinnings of social practice that appear in the PSA pamphlet are those which say that HSE culture is equal to safety culture. The following is stated on page 7:

«Working with HSE culture, many make use of the work of the organizational psychologist James Reason (2001). He has developed a conceptual framework that can be an aid in working with HSE culture».

This is not a random choice or the PSA choosing only what they comprehend as being most suitable. NWP no. 7 (2001-2002:22-23) reflects an initial awareness of safety culture (c.f. IAEA 1991; Flin et al. 2000) in Norwegian authorities' approach to HSE culture:

«The concept safety culture was used in OECD's Nuclear Agency Report after the Chernobyl-accident in 1986. The concept of health, environmental and safety culture is, however, used in the new regulations to promote and reflect the overall regulatory scope».

Deduced from these two pieces of text in relation to one another, one can interpret that there is a comprehension of *HSE culture* as being equivalent to *safety culture* based on the approach taken by Reason (1997). This implies that the genesis discourse contains a direction towards the conceptualization of HSE culture as a tautological rearticulation of the term safety culture, and as such is not seen as a restructuration producing a functional alternative.

A second and third direction one can find has also its origin in NWP no. 7 (2001-2002:25), through text stating:

«The provisions of the regulations are largely designed as functional requirements and leave it to those responsible to determine how the specific requirements shall be met, based on an assessment of the specific risk factors in the individual company. Therefore, there is a high degree of flexibility in the use of regulations. Those responsible can choose to use national and international industry standards, or in other ways document that the selected solutions meet the requirements of the Regulations».

This text opens the array of other possible social practices of HSE culture being considered by Norwegian authorities as legal at the same level of rigor. Despite PSA trying to establish and constrict the concept of HSE culture through a hegemonic discourse based on Reason's (1997) safety culture idea, the acceptance of the array of social practices at the same level of rigor of it is also found in their pamphlet (2004:30):

«Several of the companies operating offshore have their own culture-building projects, and good results in the area of health, environment and safety have evolved as an important part of the companies' brand construction» and are important objectives for the companies' credibility and success in the market».

Nevertheless, the direction for the HSE culture concept given in this text is not consistent. It points at national and international industrial standards from another direction, which was supposed to be the basis for the HSE culture legislation, while even pointing in yet a third direction towards a company-related documentation of an HSE culture concept connected to culture-building projects.

The aforementioned direction which points at a national and international standard as a basis for HSE culture is well known in the framework for developing standards of practices and concepts. A feature that has been emphasized in the evolution of these types of standards is the socio-cultural aspect of including managerial and organizational practice, which in principle appear as organizational structures. Moreover, they are based inter alia in this context on developing a conformity assessment of regulatory requirements. This implies that they are directed against auditing regulatory compliance from the perspective of performance, to ensure corrective actions if non-compliance is identified in the context of preventing non-compliant behaviour from reoccurring. Among others, the International Organization for Standardization (ISO) is particularly known for its industry standards, which are developed inter alia to provide solutions for how concepts and practices are given a common approach in features and language to meet regulatory requirements.

Since the HSE culture concept was based on such an approach through a functional form of the legislation, the genesis opens the possibility for following an «ISO-similar» process to how standards are developed. This process consists of using experts inter alia in a conceptual topic to make the basic approach to what it contains pertaining to features and language through consensus building. This would imply that one could have used the array of approaches already in existence to the HSE culture concept by international major oil companies operating on the Norwegian continental shelf, as a basis to construct an audit outline and procedure through consensus building among the participants the legislation was directed against. For example, both safety culture and «Hearts and Minds» could have been part of a constitutive basis for such a construction of a standard for the HSE culture concept. As a national member body of the ISO organization, Norway could have communicated the need for an international standard for HSE culture, and started a development process for the concept within this organization. Both actions could have brought the genesis discourse to an end. However, how to put the HSE culture concept into play has been overlooked and not been a part of how to solve the audit problem of the legislated demand and resulting obligation.

The third direction that appears through a textual analysis can be comprehended as rhetorical in the framework of stating political ideals. If the HSE culture concept is to be regarded as part of a company's brand construction it will be difficult to assess what it represents in terms of conceptualization. It will appear as a declared rhetorical activity on behalf of Norwegian authorities as well as the companies of the sector, rather than the defined activity expected. The reason for such an interpretation is that it will be within each company's scope to argue and convince the PSA and other stakeholders in terms of legitimacy as to what represents an HSE culture activity and what it implicitly stands for. This implies that a brand-constructing activity can become the object of negotiation if it is to be considered part of HSE culture or not. It will then appear as a concept without boundaries and an activity without any substantial connection to a standard or definition which state performance in the context of compliance.

In such a perspective the HSE culture concept appears as decoupled from the core activities of a petroleum company. Arguably, it also represents a deviation from what the legislation not only intended but required it to be. Decoupling is an expression of apparently observable and formally designed structures of an organization, being loosely attached to its core activities, but being tightly coupled to the values and norms of the legitimacy surroundings (Meyer and Rowan 1977). Brunsson (1989) additionally regards decoupling as an organizational hypocrisy based on strategic consideration, implying that an organization has at least to pretend as though it is doing something that is thought of as corresponding to the HSE culture concept. A decoupled context will be allowed through conservatism, i.e. that both PSA as auditor and the audited petroleum companies presently declare themselves in a contented HSE culture state, simulating a context that is difficult to penetrate for an outside legislator.

The consequence of this can be that instead of furthering the level of HSE through the HSE culture concept, an accepted conservative state of audit by Norwegian authorities more or less only forwards a rhetorical political action through legislation. This is a context in which the concept of HSE culture is not put into play in relation to the demand and obligations required through legislation from the participating actors since it is difficult to comprehend as a functional alternative, but is nevertheless a social practice. It must therefore be taken in consideration that Norwegian petroleum authorities can deliberately choose to keep it in the state described as the third direction. Gaps between formal policies and actual organizational practices prevail.

5. CONCLUSION

Through analysing the empirical basis of the genesis discourse as reflected in the Norwegian legislation of the HSE culture concept, one can establish three possible social practices; the two first mentioned represent a point of departure for a further in-dept-investigation to obtain a workable auditing procedure and put in play as functional alternatives, while the third represents a «window dressing» alternative:

1. An *oral practice* putting HSE culture on an equal footing with Reason's (1997) safety culture, seen as rearticulation rather than restructuring, promoted by research actors and acclaimed by the authorities.
2. A *standardisation practice* based on models offered by standardization organisations like ISO, or through consensus building on non-formalised procedures amongst petroleum companies.
3. A *political rhetoric practice* staged by Norwegian authorities, leaving HSE culture to a non-operative mode of auditing instead of defined activity, and where the concept appears as decoupled in the context of the obliged companies.

Arguably, the two first alternatives mentioned are what we initially would expect but not have gained, given the textual meaning of the corresponding laws and regulations, while the third alternative apparently corresponds more to the present situation, leaving the HSE culture concept and practice out on a limbo.

REFERENCES

- Brunsson, N. (1989). The organization of hypocrisy: talk, decisions and actions in organizations. Chichester: John Wiley & Sons.
- Fairclough, N. (1992). Discourse and Social Change. Malden: Polity Press.
- Fairclough, N. (1995). Critical Discourse Analysis. Boston: Addison Wesley.

- Flin, R., Mearns, K., O'Conner, P. & Bryden, R. (2000). Measuring safety Climate: Identifying the common features. *Safety Science*, Vol. 34, 177 - 192.
- Hansen, B. H. (2006). Norway wishes to be best on Health, Environment and Safety in the Petroleum Industry. Press release 7 April 2006. <http://www.regjeringen.no/nb/dep/aid>,
- Hatch, M. J. (1993). The Dynamics of Organizational Culture. *Academy of Management Review*, 18(4): 657-693.
- Hudson, P. (2007). Implementing safety culture in a major multi-national. *Safety Science*, Vol. 45, 697 - 722.
- IAEA (1991). *Safety Culture* (Safety Series No. 75-INSAG-4) International Atomic Energy Agency, Vienna
- Karlsen, J. E. (2004). *HSE management (Ledelse av Helse, miljø og Sikkerhet)*. Oslo: Fagbokforlaget.
- Martin, J. (1985). Can organizational culture be managed? in P. J. Frost et al. *Organizational Culture*. London: Sage Publication Ltd.
- Meyer, J. W. og Rowan, B. (1977). Institutionalized Organizations: Formal Structures as Myth and Ceremony. *American Journal of Sociology*. (26) 1, 340-363.
- Norwegian White Paper no. 51 (1992-93). *Safety and working environment in petroleum industry on the Norwegian continental shelf*.
- Norwegian White Paper no. 7 (2001-2002). *About health, environment and safety in the petroleum activity*.
- NRC (2007). *Health, environment and safety in the petroleum industry. 2007-2011*. Oslo: Strategy document for R&D effort.
- Phillips, L. and Schrøder, K. (2005). Discourse analytical text analysis, (Diskursanalytisk tekstanalyse), In Järvinen, M. and Mik-Meyer, N. (ed.) *Kvalitative metoder i et interaktionistisk perspektiv*. København: Hans Reitzels Forlag.
- Potter, J. and Hepburn, A. (2008). Discursive Constructionism, in Holstein, J.A. and Gubrium, J.F. (eds.) *Handbook of Constructionist Research*. New York: The Guilford Press.
- Power, M. (1999) *The Audit Society. Rituals of Verification*. Oxford: Oxford University Press.
- PSA (2004). *HSE and Culture*. Stavanger: Booklet.
- PSA (2008). *Safety. Status and Signals 2007-2008*. Stavanger: Annual magazine.
- Reason, J. (1997). *Managing the Risks of Organizational Accidents*. Hants: Ashgate Publishing Limited.
- Stichcombe, A. L. (1968). *Constructing Social Theories*. New York: Harcourt, Brace & World, Inc.
- The framework regulations (2001). *Regulations relating to health, safety and the environment in the petroleum activities and at certain onshore facilities*. Updated by Royal Decree of 12 February 2010.
- Titscher, S. Meyer, M., Wodak, R. & Vetter, E. (2000). *Methods of Text and Discourse Analysis*. London: Sage.
- Turner, D-M., Haley, H. and Hallencreutz, J. (2009). Towards a Global Definition of Best Practice in Change Management. *The international Journal of knowledge, culture and change*. Vol. 9 (8), 1