

OIL, GAS AND ETHICS

Oil and gas exploitation requires top-level engineering work. The natural hydrocarbon resources are extremely valuable for the society, but the consequences of accidents can be serious. The industry has great emphasis on thorough and high-quality engineering based on good engineering ethics. Norwegian companies are known as world leaders with respect to HSE (Health, Safety and the Environment).

Responsibility for public safety and welfare are fundamental values in engineering ethics. Exploiting and developing natural resources into values for the society are among engineers' foremost tasks. Every engineer must have knowledge of and compliance with existing laws, regulations and standards. Ensuring continuous development of knowledge and vital collaborative practice is also necessary to ensure public safety and welfare.



On April 22 1977 the first uncontrolled blowout happened in the Norwegian sector of the North Sea on the Ekofisk B oil platform in the Ekofisk field. Twelve thousand seven hundred cubic meters of raw oil leaked out before a valve was installed seven days later that stopped the blowout. Poor safety work on the well had caused the accident, which also showed that personnel lacked preparation for this type of oil spill. Greatly improved training for platform personnel was one of the changes taking place after the accident.

This requires that professionals pay attention to preserving of nature as a habitat for people. It is only through such caution, that situations that threaten or harm the environment or individuals' health and safety, or challenge human rights, may be avoided. High HSE level would also imply high quality for oil & gas facilities, and implicitly high productivity.

Whistleblowing. Engineering ethics generally assign professionals with the responsibility of speaking out if they notice that their own organization, organizational partner or clients are not following proper engineering procedures, and this failure places individuals and society at risk.

Such reporting is to take place internally up the chain of command, or to an internal safety reporting division.

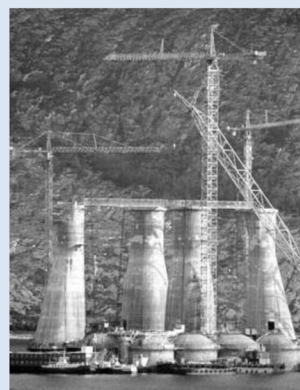
The vast majority of such reporting is currently solved in this manner. Reporting through the company union representative is also an alternative if other alternatives fail.



On March 27, 1980, the oil platform *Alexander Kielland* capsized during a storm in the North Sea with 212 people onboard. The platform ended up tipping over and lying upside down in the ocean. It had been floating on a suspension system consisting of five columns; however, a bracing had broken, causing breaks in other bracings so that the column ended up splitting apart and breaking loose from the platform. The bracing had been weakened by welders when mounting platform equipment. There were only 89 survivors. After the accident a series of new safety measures were implemented.

Many experiences show that reporting in cases like this to the proper authorities – or to the media – is risky for the individual.

Professional conduct means that engineers must among other things practice their discipline areas in the best possible manner, keeping their skills updated and not undertaking tasks for which they are not or cannot become qualified to complete.



On August 23, 1991, the concrete suspension system of the Sleipner A platform sank during its immersion trial in Gandsfjorden outside of Stavanger. None of the 22 people onboard were injured, but the platform, which was valued at NOK 1.8 billion, was lost when it was crushed on the ocean floor during the incident.

The accident was caused by faulty construction. Due to a calculation error, the suspension system was undersized. The calculations had not been checked, and the construction had not been able to withstand the enormous amount of water pressure during immersion.

Practicing engineering ethics also includes engineers maintaining a good working relationship with the employer, colleagues, and clients as well as complying with agreements regarding confidentiality and intellectual property rights.

The fact that we extract and transform natural resources for the benefits of society is important for Norway as a welfare state. But what are the boundaries for when this type of industry does not give societal value? What is good engineering practice, and who can call himself/herself an expert? Reporting risks often involves taking a personal risk. Future careers may be destroyed. How far does responsibility for reporting risks go?

International business and corruption. The oil and gas business is international in its scope, and Norwegian companies and professionals operate in countries where corruption is widespread.

Corruption challenges human rights, involves injustice and discrimination, causes unfair competition and inefficient economies and prevents social and economic development in several countries. Companies that become entangled in corruption risk losses both financially and of their good reputations.

Corruption is forbidden under Norwegian law and applies to Norwegians and Norwegian companies no matter where they operate in the world. Reputable companies in the oil and gas industry have ethics as a section of their core values and governing systems. It is the individual employee's responsibility to become familiar with these ethical codes. The standard ISO 26000 regarding corporate social responsibility also addresses the topic of corruption.



According to Transparency International, Angola is rated as one of the world's most corrupt countries. One of the presidents sons manages the country's oil fund. The presidents oldest daughter was recently named Africa's first female billionaire.

In order to strengthen local industry, Angola requires foreign oil companies to enter into partnership with local companies. Somoil is one such company. Owners here include governmental ministers in Angola, directors in its national oil company Sonangol and others.

However, there are several countries that are neither governed by the same values as Norway nor have legislation and a legal system that effectively regulates corruption. On the contrary, in many countries there are strong family ties and the expectation that one is to assume responsibility for and favor one's own family. In certain countries the salary levels found in the public sector are so low that people more or less presuppose that recipients will pay money in exchange for receiving public services.

Corruption can be organized in a manner so that a transfer of values appears legitimate (as fee for consultancy services) as a requirement for collaboration and partial ownership shared with a local private owned enterprise, often under the guise of legislation that supports keeping the names of owners secret.

Some people claim that Norwegian companies should not become involved in business with countries having widespread corruption. Others claim that Norwegian companies should become involved in these countries and bring Norwegian mindset and thinking to these same countries in order to encourage positive development and less corruption.

What counts as arguments in favour of avoiding doing business in countries with widespread corruption? And what on the other hand could serve as arguments in favour of Norwegian companies doing business in countries like these?

Individually speaking: Several Tekna members have a great deal of budget responsibility in their company. How responsible should this individual be regarding checking that an invoice does not involve corrupt activity?

Three members about challenges

Three members of Tekna Oil and Gas were interviewed in Tekna Magazine (April 2014) and asked to describe areas where they encountered ethical challenges at work. Over 200,000 employees work in the petroleum industry in Norway, and every one of these employees should be aware of good ethical practices. The interviews below underscore the need for us to also take part in the societal debate regarding important decisions based on the knowledge we have, as in this way we can reach better and more knowledgebased decisions.



Process Engineer

Alexander Hammersgård, age 27, has a Masters degree from the Institute for Energy and Process Technique, NTNU, and works at Norske Shell as a process engineer.

– I'm very interested in the public debate regarding my profession. I often experience that this debate is based more on feelings than it is on facts. I find it a real challenge. One example is the electrification of the Norwegian Continental Shelf. For me it is not obvious that the negative climate impact from production of electrical cables as well as the necessary import of electrical power is less than the impact if such electrical power is generated at the offshore field.

– Maintaining a work-life balance in a hectic industry is another challenge I face. You are usually assigned to a division

and have your main tasks there, are involved in external projects that require a lot from you, and you have managers, colleagues and clients with whom you need to maintain a relationship. And you also have a private life. It is often hard to find a balance between all these competing areas of your life.



Consultant

Runar Østebø, age 56, has a Masters degree in Mathematical Statistics, General Science/Technical Physics from NTH. He works at Statoil Head Office in Stavanger as advisor in Subsea Technology & Operations. He is head of the Tekna Oil and Gas board.



Systems Architect

Jomar Jentoft, age 34, Masters degree in Energy and Environment, NTNU, works with systems architecture for electric power distribution for subsea installations. He is working with Siemens in Trondheim.

– I work multi-disciplinary across many arenas both nationally and globally, and therefore with different cultures. Some of these are industry-oriented and open where it is regarded as correct and important to share knowledge with respect to, for instance, HSE. Other arenas are more 'closed' in a business sense and are confidential, so information is exchanged only amongst the participants and stakeholders of the work. When moving among these different arenas on a daily basis, it is important to be aware of what you can say and what you can share with whom in which arena.

– I think that we as technologists must use our professional expertise and take part in public debates. Tekna is a good arena for practicing this type of involvement. It enables holistic understanding which in turn awards added value for the employee and also for the benefit of his/her company. The public debate will be the poorer and political decision-making of lower quality if we do not share our opinions in public. We cannot just sit around a table complaining about our politicians. Participating and contributing is a part of being socially responsible.

– One important question for many professionals such as myself is if we should work in oil and gas industry or in renewables industry. Since I made my choice, my challenge is to make good future-oriented solutions that minimize environmental impact. We must aim at achieving optimal quality and safety. We must have solutions that have been tested and well documented so that we know they will be reliable.

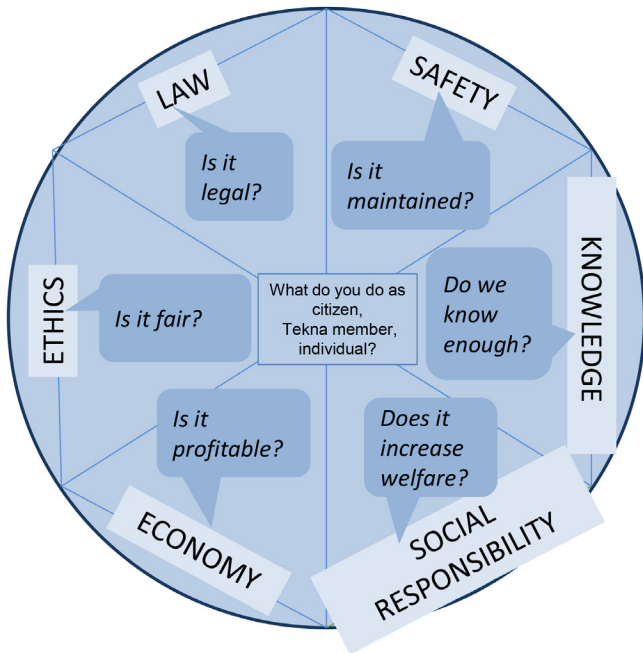
– Undertaking environmental impact assessments when developing new fields is important. A lot of good work is done in this area, but the results are not always as well presented as they should be. Public debate often creates more confusion than providing clarification for the audience. It is important that it is presented clearly that serious work is done and that consequences for plant and animal life both on the ocean floor, in and above water are mapped and evaluated – whether field development takes place or not.

Which ethical challenges do you think employees in the oil and gas industry are facing today?

We should make knowledge-based decisions with regard to environmental consequences in the event of developing new fields, electrification of the Norwegian Continental Shelf and with regards to climate in a general sense. But what in any given situation are the criteria for deciding what is adequate knowledge for these tasks?

On oil and gas and ethical reflection

Ethical reflection concerning the oil and gas industry is in its simplest form about asking a certain number of questions, as illustrated in the figure below, which is an adapted version of the ethical navigation wheel developed by philosophers Kvalnes and Øverengen.



Simply stated, economy is a question of whether or not something is profitable. The answer to this question serves as an important premise for making decisions. Is it legal? It is as a rule decisive to be able to answer this question positively.

Ethical reflection concerning oil and gas production requires several more questions and answers.

Do our actions contribute to increased welfare in the society in general? What is the contribution and who profits from it? Do we know enough to be able to say that our decisions are based on knowledge? Are there others who would claim something different than us about this topic, and if so, what would they say? Is society's safety being maintained in a general sense? Is what we are now doing fair? Fair to everyone, everywhere?

Tekna Oil and Gas

... is a professional group in Tekna. It organizes professional meeting places, alone and in collaboration with others. We focus on important professional and societal topics related to the offshore and onshore petroleum industry. Members are encouraged in this connection to provide input to high priority public hearings that affect the industry. In addition, the group works to stimulate recruitment to the industry and promote positive conditions for innovation, research and development.

The group is open to all interested Tekna members, and for those a free membership. The group board is led by Runar Østebø.

The contact person in the secretariat is irene.haugli@tekna.no.

About Tekna Ethical Advisory Board

Tekna Ethical Advisory Board is Tekna Executive Board's advisory committee regarding ethics. In accordance with its mandate, the Advisory Board takes initiative to raise and promote ethical issues in both Tekna, among its members, and Norwegian society.

The Ethical Advisory Board has eight members appointed by the Executive Board for three year terms. The Advisory Board is this year (2014) led by Svein Nordenson.

The contact person in the secretariat is: john.mikal.raaheim@tekna.no

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Tekna Ethical Advisory Board
Svein Nordenson

Tekna Oil and Gas
Runar Østebø



See Tekna's Ethical Guidelines
See also: www.tekna.no/english

About this paper

Tekna Ethical Advisory Board's working papers provide a brief outline of debate held during their meetings. The above summary is a result of collaboration with Tekna Oil and Gas. These papers are dated and under continual development. You are invited to submit your comments to the secretariat for the Board at jmr@tekna.no.