

THE SCIENTIFIC BASIS FOR REVISING THE INTEGRATED MANAGEMENT OF THE MARINE ENVIRONMENT OF THE BARENTS SEA AND THE SEA AREAS OFF THE LOFOTEN ISLANDS

A written submission by Natur og Ungdom,
Naturvernforbundet and Bellona.

Oslo, 29. september 2010

Referansenummer 200601640-/MSM



Ola S. Elvevold



Lars Haltbrekken



Frederic Hauge



Table of Content

Summary and main message.....	3
Preface.....	8
Chapter specific comments.....	15
Attachments.....	39
Sources.....	54

SUMMARY OF NATUR OG UNGDOM, NATURVERNFORBUNDET AND BELLONA'S PRIMARY MESSAGE

Natur og Ungdom, Naturvernforbundet and Bellona are with this document presenting a shared consultation response on «The scientific basis for updating the management plan for the Barents sea and the maritime areas outside Lofoten» and its underlying and supplementary reports.

MAIN CONCLUSION:

Natur og Ungdom, Norges Naturvernforbund and Bellona holds the position that the scientific assessments put forth as basis for updating the management plan for the Barents sea-Lofoten area that all suggest permanent petroleum-free zones should be established outside Lofoten, Vesterålen and Senja.

This means Natur og Ungdom, Norges Naturvernforbund and Bellona are against the execution of an opening process outside Lofoten, Vesterålen and Senja following the Petroleum Law, and in favour of continued and enforced work within the frame of the management plan. The consultative parties also suggest that the management plan must have a legal basis through the Nature Diversity Act.

Our justification for these stances can be summarized in the following main points, and is justified further in commentaries to the management plan:

[Chapter 2 Relevant national and international processes]

THE TFO-ARRANGEMENT BREACHES WITH THE NORWEGIAN PARLIAMENT'S PREREQUISITES AND UNDERMINES PROPER ENVIRONMENTAL MANAGEMENT.

Natur og Ungdom, Naturvernforbundet and Bellona believe the mangament plan must blaze the trail against an expansion of the arrangement for allocation in predetermined areas (TFO-arrangement). These are marine areas defined as vulnerable and valuable within the fraework of the management plan. The organizations also suggest that commercial activity subject to the management plan must be evaluated under influence of national and international climate objectives to a greater extent.

THE NEW DEMARCATION LINE-AGREEMENT MAKES NEW RESEARCH NECESSARY

The new areas being incorporated in the management plan due to the demarcation line-agreement with Russia builds an area corresponding to almost a third of Norway's total land area. According to the government's environmental agencies the ecological resources and their vurnerability in this area have not yet been mapped. The totally ecosystem-based evaluation which is the basis for the management plan depends on such mapping. Therefore Natur og Ungdom, Naturvernforbundet and Bellona holds the opinion that such a mapping must be implemented by updating the management plan.

New petrouleum activity in the northern regions is conflicting with climate objectives

In order to meet the two degrees Celsius target it might be necessary to cut emissions up to 85 percent by the year 2050. New areas opened for petroleum activity won't be ready to start producing for ten years after at the earliest, and can still produce oil or gas in the period between 2030 and 2050. Scenarios from The International Energy Agency (IEA) show that the consumption of petroleum must be drastically reduced in this period to keep the two degrees target within reach. Opening new areas in the management planning area for petroleum activity thus rests upon the assumption that both Norwegian and international climate politics fail, and the comprehensive investments are being regarded as a speculative contribution in a bet against humanity's ability and will to avoid a future climate crisis. The greater the investments are, the more likely they will work as a self-fulfilling prophecy.

[Chapter 3 Human Activity]

CO-EXISTANCE BETWEEN FISHING AND PETROLEUM ACTIVITY IS IMPOSSIBLE

Due to the narrow continental shelf outside Lofoten, Vesterålen og Senja petroleum-related activity will in practice be impossible without creating considerable problems for the fishing fleet. Seismic acquisition and security zones around petroleum facilities will make it very difficult for fishing vessels to operate in the area. This will produce very negative impacts on the local fishing fleet.

Naturvernforbundet, Bellona and Natur og Ungdom holds the opinion that this conflict isn't sufficiently communicated in the study questioned here.

Norwegian fish is today a brand that is associated with purity. Experiences from the Exxon Valdez (1989) and the Braer incident (1993) indicate that fishery products from polluted areas are dead stock long after the incidents first occurred, even when the quality of the fish satisfy all quality requirements. Natur og Ungdom, Bellona and Naturvernforbundet holds the opinion that additional knowledge on the effects an oil leak in the north would make on market for fish is called for.

THE WORTH OF PROBABLE PETROLEUM RESERVES IN THE AREA ARE LIMITED

Preliminary figures show that the total petroleum resources within the planning perimeter are modest compared to findings further south. Moreover these resources are scattered over many and relatively small prospects, which reduces the profitability of production. For example it could turn out that the total production profit in the areas outside Nordland VI, Nordland VII, og Troms II in practice don't exceed the wealth creation in fishing and tourist industry in the same period of time.

[Chapter 4 External influence]

THE ECOSYSTEMS TOTAL VALUE AND VURNERABILITY HAVE BEEN UNDERESTIMATED

The exceptional value and distinct vulnerability of the maritime zones outside Lofoten, Vesterålen and Senja are emphasized by new knowledge on the ecological systems and the important species living here.

Organisms living on the sea-bed together with a large number of sea mammals and species of sea birds show a vurnerability higher than previously assumed. Even though the ecosystems in these areas are less polluted than for instance ecosystems in the North Sea, many species are under considerable strain. The sum of increasingly higher temperature and pH-alterations in the ocean combined with long-haul transport of pollution through air and currents, will sooner or later cause destructive and irreversible changes in the ecosystems. In addition, disturbances and damages associated with seismic acquisition and contact with fishing equipment will have an impact. With these factors as a backdrop, we know the additional strain from new peutroleum activity can be the determining factor toward creating fatal destructions in this area's ecosystems. Therefore the principle of precaution calls for petroleum-free maritime zones outside Lofoten, Vesterålen and Senja.

[Chapter 5 Risk development in the area]

THE DEEPWATER HORIZON-EXPLOSION COULD HAVE HAPPENED IN NORWAY

The Deepwater horizon-explosion showed that state-of-the-art technology and expertise is not a guarantee for avoiding uncontrolled blowouts. The Petroleum Safety Authority Norway share our views that a similar incident could also have occurred in Norway. All companies involved in the Mexican Gulf accident: BP, Transocean, Camron og Halliburton, are also reputable and prominent actors on the Norwegian shelf. The incidents on Gullfaks C (2010) and Snorre A (2004) show how close the Norwegian oil rigs have been to similar disasters. After the incident on Snorre A, as was also the case with Deepwater Horizon, several extensive breaches on existing regulations were uncovered. The investigation report from the Petroleum Safety Authority after the incident on Gullfaks C shows 40 breaches of existing regulations.

NORWEGIAN OIL-SPILL PREPAREDNESS CAN'T STOP CATASTROPHICAL DESTRUCTIONS FROM LARGE OIL SPILLS

Strong winds, huge waves, powerful oceanic currents, low temperatures with appurtenant ice formation, and polar nights combined with very small distances to shore are conditions which Norwegian oil-spill prepardness cannot overcome with today's technology and qualifications. The impacts of a wide-ranging oil spill near shore will most probably be serious contamination of the littoral zone, and damages to sea birds and other animal- and plantlife in the area.

THE OIL COMPANIES' ORGANIZATION AND CONDUCT CONTRIBUTES TO INCREASED RISK ON THE NORWEGIAN SHELF

The Petroleum Safety Authority Norway includes that the oil company Statoil is lacking the necessary control on a range of essential processes in its conclusive remarks in its supervision reports from 2010. Inadequate allocation of competence and maintenance resources that maintain critical safety functions are among the critical issues. Furthermore are negligence and deficient use of risk evaluations pointed

out. This weakens the confidence in the company's capability and willingness to carry out operations in a trustworthy manner.

LACKING FOLLOW-UP PROCEDURES AND A WEAK RESOURCE SITUATION CHARACTERIZE NORWEGIAN CONTROL AUTHORITIES

Inquires after accidents and misses often show that violations of rules are important factors in the course of disasters. Norwegian regulation practice, where the principle of internal control is strong, has contributed to Norwegian control authorities passive attitude when it comes to consecutive control and follow up of the petroleum industry. Naturvernforbundet, Bellona and Natur og Ungdom holds the opinion that The Climate and Pollution Agency (Klif) is understaffed and lack the competence to do the necessary follow up of the petroleum industry. Hence the hearing parties stresses the need for a tighter follow up and a more frequent use of sanctions from the Norwegian Petroleum Safety Authority (Ptil)(move this abbreviation higher to the first mention of the Petroleum Safety Authority), in addition to an improved resource situation for both Klif and Ptil.

THE VISION OF ZERO EMISSION IS BASED ON FAULTY PREMISES AND ON GREAT UNCERTAINTY.

The oil industry's vision of zero emission is based on premises with large gaps. These premises stand even weaker when they form the basis for evaluating the northern territories. Unintentional spills of red and black-listed chemicals happens in large scale, as demonstrated by the breach to the surface and subsequent spills from Veslefrikk's toxic disposal wells. We also know too little about the transmission value of ecotoxic test data in polar areas. For instance, a chemical defined as yellow might have to be redefined as a red or a black chemical when subjected to low temperatures and arctic organisms (Olsen 2007)

"THE SCIENTIFIC BASIS REPORT"'S EXPOSITION OF THE IMPACTS OF OILSPILL AS SMALLER OUTSIDE VESTERÅLEN THAN LOFOTEN IS ERRONEOUS

One of the incident scenarios sketched out in the scientific basis report is placed north-west alongside the coast of Vesterålen at the continental slope. This means the spill point is placed in the Gulf Stream's south-north movement, and not in the coastal- and tidal current's east-west movements. Bellona conducted a simulation of an oil spill in an area outside Vesterålen where oil and gas deposits are to be found, according to the Petroleum Directorate. According to this simulation, the oil would spread along the coastal line in a greater degree than what the scientific basis report would lead us to expect. On this basis Natur og Ungdom, Naturvernforbundet and Bellona demand new simulations be done at the point of discharge within areas where drilling is of interest.

THE IMPACT SCENARIO FOR HOW A POTENTIAL OIL SPILL COULD AFFECT STOCKS OF SEA BIRDS ON THE LOFOTEN ISLANDS AND VESTERÅLEN IS NOT SUFFICIENT

The scientific basis report's simulations of oil accident management does not pay adequate respect to coastal ocean currents, nor do they respect the uniqueness of the coastal landscape of Lofoten and Vesterålen. Naturvernforbundet, Natur og Ungdom and Bellona demand the quantitative environmental risk evaluation which encompasses non-pelagic sea-birds taken out of the decision basis, and that new qualitative evaluations are made, with regard to the potential impact oil spills have on non-pelagic

seabirds, sea mammals and the littoral zone. This is also recommended by the Directory for Nature Management (DN 2010).

THE IMPACT ANALYSIS HOLDS TOO LITTLE KNOWLEDGE ON HOW TO CALCULATE POTENTIAL ABSOLUTE ENVIRONMENTAL RISK IN THE CASE OF AN OIL SPILL

The scientific basis report describes a need for development of further methods to calculate absolute environmental risk in the case of unintended spills. The report says «It's important to develop a methodology for calculating the loss ratio in recruitment to a fish cohort which, in a biologically safe way, handle a broad variation in survival from fry to adult fish» According to the Institute of Marine Research this means when analyzing absolute environmental risk following an oil spill outside Lofoten, Vesterålen and Senja with today's environmental risk analysis tools, a large amount of uncertainty will be associated with it. Natur og Ungdom, Naturvernforbundet og Bellona holds the opinion that results from the environmental risk analyses, describing absolute environmental risk for losing parts of a cohort in the case of oil spills, cannot be used in a scientific basis for updating the management plan. The hearing parties are hence demanding additional collection of knowledge and implementation of new analyses in the following revision period. **THE SCIENTIFIC BASIS HAS NOT MADE RISK ANALYSES FOR OTHER VULNERABLE MARTIME AREAS IN THE NORTH**

Tromsøflaket and coastal areas along the coast of Finnmark closed to drilling today are considered especially valuable and vulnerable. Even though opening them for drilling is continuously discussed, impact analyses for oil spills in the relevant areas have not yet been worked out. The climate and pollution agency has stressed the need to work out more and various incident scenarios. Natur og Ungdom, Naturvernforbundet and Bellona demand this be worked out before revision takes place.

LACKING KNOWLEDGE ON CORE SPAWNING GROUNDS FOR FISH

The scientific basis report admits that «even though one knows fish spawn over large areas it isn't known whether some parts of these areas are more important than others. Nor is it known in which degree they constitute core areas for the species in periods with small stocks». In periods of low stocks fish are particularly vulnerable to oil pollution, and therefore better mapping of potential core areas for spawning is prudent. Naturvernforbundet, Bellona, and Natur og Ungdom demand intensified knowledge collection in this concern.

PREFACE

On April 15th 2010 the «The scientific basis for updating the management plan for the Barents sea and the maritime areas outside Lofoten» was published. The report itself, its fourteen underlying reports and five supplementary reports ¹ plus additional reports such as «Economical evaluation of undiscovered petroleum resources in the maritime areas outside Lofoten, Vesterålen and Senja » and «Petroleum resources in the sea areas off Lofoten, Vesterålen and Senja - A geological evaluation » form the basis for this written submission. Natur og Ungdom, Norges Naturvernforbund and Bellona hold the opinion that the scientific basis for the revision of the management plan suggest that it's not justified to open for oil drilling in the maritime areas outside Lofoten, Vesterålen, Senja, and near-coastal areas in the Barents sea. New information gathered recent years in the process of making the management plan supports that the areas which in 2006 were defined as especially vulnerable and valueable must still be shielded from new environmental stressfactors, such as petroleum industry. We also wish to refer to the written submissions by the directorate for Nature Management (DN) dated June 30th 2010, and the Climate and pollution agency (Klif) dated July 1st 2010. These submissions state «As will be seen clearly in the report, no new information that calls for changing the status of the areas labeled as especially valueable and vulnerable in the current management plan has seen the light of day.» (Klif). DN reason in their recommendation by stating that the especially valueable areas outside Lofoten, Vesterålen and Senja are «core areas for productive capacity, diversity and functionality in the entire Barents sea and also parts of the Norwegian sea.» Klif additionally state in their written submission that «The areas mapped by MAREANO and the condition of sea bird stock mapped by SEAPOP strengthen and confirm that these areas are both vulnerable and valueable.»

Since 2006, new knowledge on man-made climate changes has come to notice. It shows that the effects are greater and demand a quicker and more efficient effort than previously assumed. To reach the international target of limiting global warming to less than two degrees, roughly 2/3 of all discovered oil, gas and coal must be left untouched. Natur og Ungdom, Naturvernforbundet and Bellona hold the opinion that our historical responsibility and the fact that developing countries are expected to increase their production of fossile energy gives notice that rich countries have to take the lead and leave fossil resources where they are.

The organizations also hold the opinion that petroleum resources in especially valueable and vulnerable areas should be prioritized to be left untouched.

A knowledge gaps remain unfilled in a wide range of areas. DN emphasises in its submission the need of further research on topics like acidification of the maritime areas, the joint stress of the most important

¹ The 14 underlying reports, and 5 supplementary reports refer to those listed on The Ministry of the Environment's webpages under <http://www.regjeringen.no/nb/dep/md/tema/hav--og-vannforvaltning/forvaltningsplan-barentshavet.html?id=87148>

threats, and the risk of irreversible changes. These factors should lead to intensified work with the management plan within the framework of ecosystem-based management.

AN OIL-FREE LOFOTEN, VESTERÅLEN AND SENJA MEANS A NO GO TO IMPACT STUDIES

An environmental impact study (KU) in accordance with the petroleum activity act for the sea areas outside the Lofoten islands, Vesterålen and Senja will be the first step towards an opening process for drilling. The petroleum activity act states that “before opening of new areas, where the intention is allocation of extraction licenses, the different interests in the area should be considered”. These different interest areas need to be weighed relative to each other, before clearance to open new areas for drilling is given

The realization of an opening process following petroleum activity act does not mean that the entire area of interest is opened for drilling, although an opening processes on the Norwegian shelf has previously always led to drilling and field development. Several sea areas, for instance outside the Halten basin and in the Farsund basin, have been opened despite warnings from environmental scientists (St. meld. nr. 26 (1993-1994), St.meld. nr. 26 (1993-1994) vedlegg, St.meld. nr. 40 (1988-89)).

As as evidenced by the petroleum activity act’s § 3.1, the opening processes for new sea areas are under the ministry of petroleum and energy’s jurisdiction. According to law the ministry determines «which type of processing to use in each individual case». Thus they have extensive authority governing the process. Natur og Ungdom, Naturvernforbundet and Bellona hold the opinion that the study on effects of oil drilling and the evaluation of efforts should be in the hands of the ministry of the environment. It is this departments responsibility to insure that the management plan is composed in an interdisciplinary way that covers all sectors. The purpose is sustainable management of the valuable resources that maintain the ecosystem’s structure, productivity and manner of operation.

The purpose of an impact study according to the petroleum activity act’s § 3.1 however, is to open new areas with the intention to allocate extraction licenses, and therefore unsuited to provide knowledge basis for holistic management of the affected sea areas. On this basis Natur og Ungdom, Naturvernforbundet and Bellona are against an impact study and in favour of continued and reinforced work within the frames of the management plan.

THE MANAGEMENT PLAN REQUIRES A CLEARER LEGAL FOUNDATION

Bellona, Natur og Ungdom and Naturvernforbundet hold the opinion that holistic management plans have a huge potential for improvement as an efficient management tool. Working with plans like this are not described in the legal framework as the elaboration of other plans, for instance the planning- and building act. Uncertainty is also tied to the legal effect of holistic management plans. Nor are there any legal requirements to meet the need for covering holes in knowledge or methodology of holistic management plans. Therefore Bellona, Natur og Ungdom and Naturvernforbundet think it’s important and only natural that this management tool is warranted by law through the nature diversity act.

The Norwegian Veritas (DNV) carried out a similar evaluation on the question on behalf of Technique Scientific Union (TEKNA). They concluded: «Management plans represent governing principles rather than it is a consequence exposition tool. They can still be regarded as strategic impact studies. It is considered a legal flaw that management plans aren’t warranted by law in an environmental regulation

[act?] as they should be in order to exert the ecosystem based approximation intended in St. meld. nr. 12 (2001-2002).

It is desirable that management plans be based upon comparable methods of impact evaluation. In longer terms the arrangement with holistic management plans can contribute to increased predictability for the industry, but it presupposes the usage of universally accepted methods of evaluation on all areas. Their predictability would also be more easily evaluated if they were part of a legal framework» (DNV 2009).

This could also strengthen the claims to the studies forming the basis for the overall management plans. Bellona, Natur og Ungdom og Naturvernforbundet hold the opinion that a minimum claim in the act be that management planning are in accordance with EU's environmental impact assessment (The Strategic Environmental Impact Assessment Directive 2001/42/EC) sanctioned by EU the June 27th 2001.

THE DEEPWATER HORIZON-DISASTER COULD HAVE OCCURED IN NORWAY

On April 20th 2010 the drilling rig Deepwater Horizon exploded in the Gulf of Mexico. Eleven men died and more than 780 million litres (206 million US gallons) of oil gushed uncontrolled into the sea as the rig sank. The disaster took place on board one of the world's most modern and advanced petroleum facilities. Nobody thought such a disaster was possible, as is evident by BP's (the operating company) own drilling plan and accompanying environmental consequences. The plan was delivered by BP to American authorities prior to the operation, and it stated that it is «unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities» (BP 2009). The disaster was a shock to the oil industry. Serious disasters followed by oil pollution is not only a scenario of the past, but is happening despite considerable technological development the last few years. Bellona, Naturvernforbundet and Natur og Ungdom find it important that experiences from the Mexican Gulf disaster are considered when the management plan for the northern areas is revised. On September 8th 2010, BP published their own investigation report on the Deepwater Horizon disaster. It concludes that no isolated factor caused the disaster. The report lists eight different causes that together triggered the explosion. These eight causes are:

- 1) Hydrocarbon-leak from the reservoir through the cement barrier
- 2) Hydrocarbon-leak through the casing shoe
- 3) Faulty approval of a pressure test despite a lack of well integrity
- 4) Inflow of hydrocarbons that weren't discovered before they reached the surface
- 5) A failed attempt to restore control over the well
- 6) Blow-out of hydrocarbons onto the rig deck
- 7) Firefighter equipment that didn't manage to prevent the ignition of the hydrocarbon gas
- 8) The emergency shutdown mechanism for the BOP didn't work

Even isolated, each cause is very serious. The fact that so many serious errors were allowed to develop at the same time involves massive failures on a technical as well as on an operational level. This undermines the trust not only to the companies directly involved in the operation, but to the petroleum industry as a whole. It is important to be aware that all companies directly involved in the disaster: BP, Transocean, Camron and Halliburton are reputable and significant actors on the Norwegian shelf. A short while after BP published its report where it puts a considerable share of the blame on its partners, both companies reacted to these accusations (CNN 2010). This reinforces the impression of an industry with a poor sense of responsibility.

It's still uncertain what kind of consequences the oil spill will have on the environment in the long run. The aftermath of the incident has presented conflicting reports on the scope of the disaster. American authorities claimed that most of the oil was gone shortly after the accident and calculated the remaining amount of oil in the sea to about 25% (NOAA 2010). However, several researchers at the University of Georgia have examined the NOAA report and concluded that as much as 80% of the oil might remain in the ocean (University of Georgia 2010). There is still uncertainty and lack of knowledge on how fast oil evaporates from the surface is broken down by microorganisms, mixed into the mass of water, and possibly how fast it deposits on the seabed.

Naturvernforbundet, Natur og Ungdom, and Bellona hold the opinion that a threat of a disaster like the one in the Mexico gulf will always be present, regardless of what efforts are made on a technological and on an organizational level. This means that acceptable risk in a normal situation can become unacceptable in very vulnerable and/or valueable areas. Our attitude is supported by, among others, the leader of the petroleum safety authorities in Norway, Magne Ognedal, who expressed in a speech during ONS in August 2010 that a catastrophe like Deepwater Horizon could have occurred in Norway.

INSPECTION OF AUTHORITIES IN THE PETROLEUM INDUSTRY MUST BE INTENSIFIED

On commission from the Norwegian Oil Industry Association (OLF), Det norske Veritas (DNV) presented a report that compares the authorities' regulations on the Norwegian shelf with the corresponding regulations in the Mexican Gulf (DNV 2010). The report shows a range of differences that indicates that Norway has a stricter body of regulations, apparently more suitable to prevent disasters and uncontrolled blowouts than the USA.

The following differences are salient: Norwegian regulations demand internal control and riskbased HMS-evaluations. The HMS-guidance system in the US regulations is voluntary. American authorities are more specific on operational requirements and technical specifications imposed on the industry. Norwegian authorities have more rigid and distinct demands regarding the number of independent well barriers and their quality.

Instead of taking a stand on whether a risk- and internal control based regulation is superior to a requirement specific inspection-based regulation, Bellona, Naturvernforbundet and Natur og Ungdom wish to emphasize the non-existent clash of interest between the two. On the contrary, one arrangement can supplement the other, and collectively contribute to better security. Bellona, Naturvernforbundet and Natur og Ungdom hence hold the opinion that Norwegian authorities must

increase their inspection efforts considerably, while maintaining the present internal control requirements.

We wish to warn against the conclusions drawn by OLF on their webpages in the notice titled «DNV-rapport: Solid petroleumsregelverk i Norge» (DNV-report: Solid petroleum regulation in Norway). The article emphasizes the benefits of Norwegian regulation practice are. Instead the focus ought to lie on how elements from American regulation practice can be used to strengthen Norwegian regulations. Mainly, it seems that Norwegian oil industry works in accordance with existing regulations. However, it's disturbingly easy to find exceptions from the rule. A strict governmental control after the American model would not only sharpen the companies' own internal control, it would also make it easier to reveal disreputable parties who fail to adhere to authoritative demands outlined by current governmental demands for HMS. Also, a lack in technical operational demands could lead to a too relaxed attitude in some companies. Bellona, Naturvernforbundet and Natur og Ungdom therefore want the authorities regulate minimum requirements for technical output and environmental performance in cases where this would be beneficial.

The hearing parties wish to underline the DNV-reports limitations which make it unsuited for definitive conclusions about the actual risk of major accidents on the Norwegian shelf when seen in relation to the Mexican gulf. For example says the report nothing regarding the suitability of the two bodies of regulations, or in what degree reality complies with the regulations, or how well the authorities inform about and follow up on existing regulations. Nor does the report anything about the background for the Deepwater Horizon disaster, or whether the regulatory situation may have had any impact on the events that triggered the disaster.

NORWEGIAN OIL-SPILL RESPONSE CANNOT HINDER CATASTROPHICAL DESTRUCTIONS IN CASE OF HUGE OIL SPILLS

Strong winds, huge waves, powerful oceanic currents, low temperatures with appurtenant ice formation and polar nights combined with very short distances to shore are conditions which Norwegian oil-spill response cannot overcome using today's technology and qualifications. The impacts of a wide-range oil spill near shore will very likely be a serious contamination of the littoral zone, and hurt sea birds and other animal- and plantlife in the area.

The Norwegian parliament has decided that oil-spill responses are to be just as good in the north as it is in the south. (St.meld nr. 38 (2003-2004: vedlegg). Bellona, Naturvernforbundet and Natur og Ungdom will in the following emphasize the challenges and consequences of larger oil spills from petroleum activity and shipping.

The biggest challenges facing oil-spill protection in the north, compared to the North Sea I the south are:

- Lots of petroleum facilities will have short distances to the shore. The closest prospects outside Vesterålen are 11 km from shore. In comparison, Ekofisk lies 264 km off the coast. If a spill occurs outside Vesterålen, the oil could reach the littoral zone only 6-12 hours later.
- A polar low can occur very quickly, and constitute a threat for equipment, lives and health. They also make render oil recovery impossible.

- Snowstorms occur more often in the north and will disable the OSD (Oil Spill Detection System), IR- and UV-detectors, radars, visual range and in extreme situations, radio communications.
- Most of the winter the wave heights reach over three meters. The oil will be whipped down into the ocean and render oil recovery at sea impossible.
- Extreme currents are present alongside parts of the coastal line and the continental shelf.
- Strong tidal waves are present in fjords and between islands and straits.
- Low temperatures in the water and air make the oil thicker and lower condensation levels. This adds the danger of icing down on oilbooms, skimmers and vessels.
- Polar nights yield huge challenges both for land and sea operations.
- Huge, deserted areas create extreme challenges for support functions, lodgings, feeding, hygiene, transport of personnel, equipment and oily waste. Long distances give huge challenges replacing and resupplying equipment, absorbents and so on.
- Difficult/impossible coastal areas with taluses (scree), wetlands and inaccessible terrain
- Inaccessible waters with passages both narrow and shallow.

We do not have either the solutions to these challenges, nor the capacity to handle them at the present time. Petroleum activity close to the coast will introduce a dramatic increased environmental risk in the case of an oil spill. It is not compatible with the Parliament's demands to keep the same level of alertness as in the North Sea. Petroleum activity in the management plan area will tie up the governmental and municipal emergency staff and equipment, which today is dimensioned for response to accidents in the coastal traffic and land-based industry firms. Bellona, Naturvernforbundet, and Natur og Ungdom demand that revisions be made to the requirement analysis for such equipment and personnel because of the expanded responsibility. As it is not possible to establish the same level of oil spill response in the management plan area as in the rest of the Norwegian shelf, Bellona, Naturvernforbundet and Natur og Ungdom demand that permission not be given to create new petroleum activity in near coastal or vulnerable areas.

STRUCTURING AND ORGANIZING RESPONSE MUST BE BASED ON WORST CASE-SCENARIO AND NOT LIKELIHOOD

Norwegian oil spill response is dimensioned based in the most probable scenario, and not the possibility for a major accident. This means that a major accident would have bigger consequences because the size of response is not large enough for an accident of such proportion. The Deepwater Horizon disaster in the Mexican Gulf is evidence that dramatic incidents can occur, even under an operation that wasn't considered particularly risky in advance. As such, Bellona, Naturvernforbundet and Natur og Ungdom demand that capacity demands for response be calculated using the worst case scenario as a basis.

UNREALISTIC ESTIMATIONS FOR COLLECTING OIL AT SEA

Bellona, Naturvernforbundet and Natur og Ungdom observe that SINTEF's simulations ascribe a radically larger oil collection capacity than has been documented during actual incidents the last few years.

Examples of oil collection at sea during earlier spills:

- Draugen (November 2006), spill 100 m³, dispersing agents were used, no oil recovered. (SINTEF 2008).
- Server (January 2007), approximate spill 580 tonns. 5% of the spill was recovered. (SINTEF 2008).
- Statfjord A (December 2007), approximate spill 4 400 m³. No oil recovered due to weather conditions. (SINTEF 2008).
- Full City (July 2009), approximate spill 300 tonn. 10-20% collected at sea. (Kystverket 2010).
- Deepwater Horizon (april 2010), approximate spill 780 000 m³. 3% gathered at sea, 5% burnt at sea. (NOAA 2010).

SINTEF's simulations of oil industry management and effect of emergency preparedness systems show that the mass balance of collection at sea with present emergency preparedness systems is calculated to 39,5%. This is an estimate far higher than actual incidents have shown.

Bellona, Naturvernforbundet and Natur og Ungdom can't see on what basis SINTEF draws the conclusion that nearly 40% can be recovered with present day emergency preparedness. All experience shows that recovery rates are far below this. And so Bellona, Naturvernforbundet and Natur og Ungdom demand that these models be adjusted and new simulations be worked out, so a more realistic overview of present day emergency preparedness is obtained.

LACKING STRATEGY FOR THE DEVELOPMENT OF EQUIPMENT AND COMPETENCE

SINTEF's underlying report on oil spill response points out that the Barents sea and Lofoten area calls for a different approach to oil spill response than what petroleum activity in the North Sea has brought about. In SINTEF's study it is evident that the development in equipment technology the next ten years will only increase oil spill recovery capacity by 5%, from 39,5 % with present response to a simulated future recovery capacity of 44% oil at sea. This shows that today's methods of combating oil spills will soon reach maximum potential of development (SINTEF 2010). Thus, the reduction of the probability for acute spills will be the only way of reducing the risk.

Bellona, Naturvernforbundet and Natur og Ungdom demand that a nationally co-ordinated program for development of methods for combating oil spills be established. The program must have a liason group composited of a broad number of public and private parties, research communities and environmental organizations. Furthermore Bellona, Naturvernforbundet og Natur og Ungdom demand that new permissions for activity where there's risk of acute oil spills must be considered regarding the response

limitations and its ability to reduce consequences. In addition there must be a national training programme that safeguards the need for trained personell in oil-pollution services.