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DIALOGUE

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FRONT COVER: ALEXANDRA BECH GJØRV (PHOTO: EMILE ASHLEY)

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THE UNTHINKABLE

Emergency preparedness is a key term for everyone involved with both security and safety in the petroleum sector. Players must have effective systems in place to prevent and respond to hazards and accidents which could result from their everyday activities. But they must also be prepared to deal with possible conscious attacks – terrorism and deliberate assaults.

No pat definitions exists for either security or safety. Incidents occasionally occur which nobody imagined possible and which no scenario had taken into account. Such events can overturn established truths and pose deep challenges for society.

SECURITY

The PSA has been given responsibility in 2013 for "security section" 9-3 of the Petroleum Activities Act, covering emergency preparedness against deliberate attacks. That requires the industry to adopt and maintain measures to secure its facilities.

This issue accordingly takes a look at three watershed events of recent years – the Nokas robbery in Stavanger during 2004, the terrorist attacks in Oslo and Utøya on 22 July 2011, and the hostage drama at Algeria's In Amenas facility in 2013.

We introduce some of those who have sought to establish what failed, and present their analyses of what went wrong. They make it clear that work on risk and preparedness cannot be confined to particular industries. Everyone has something to learn.

DISCUSSION

Dialogue is intended to contribute to openness and discussion on important issues and safety challenges in Norway's petroleum industry. Some of the challenges which urgently need to be overcome are to found far to the north on the NCS, in the Barents Sea. This issue asks whether operations can be sufficiently safe when they are extended ever further from land and into areas with big geographical and climate challenges.

Enjoy!

ØYVIND MIDTTUN
Editor

BEING BETTER PREPARED

Security has become an issue for Statoil's top management after a terrorist strike on an Algerian gas field, with full attention being paid to improving preparedness against deliberate attacks.

BY ØYVIND MIDTTUN

But greater focus on this area will not be at the expense of work on health, safety and the environment, stresses Jannicke Hilland, head of corporate security at the Norwegian oil company.

Forty people died in the assault on the In Amenas facility in the Sahara desert during January 2013, including five Statoil employees.

"We owe it to everyone who lost their life in this incident to learn its lessons and strengthen ourselves as a company," says Hilland, who started her present job in September.

The In Amenas attack exposed serious weaknesses in defences against such aggression.

"WORK ON SAFETY AND SECURITY will become clearer and more visible," says Jannicke Hilland, head of corporate security at Statoil. (Photo: Helge Hansen/Statoil)

Areas where the general level of security needed to be enhanced were documented both by Statoil's own audit and by an external inquiry.

IMPROVEMENT. Hilland's new job makes her responsible for the major improvement drive now being implemented by Statoil, and which is already well under way.

One step has been to elevate security into a separate staff entity at corporate level, in charge of both traditional safety and security/emergency preparedness.

"Work on safety and security will become clearer and more visible," Hilland explains. "The organisational change has been made to increase attention from top management.

"Improvement efforts aimed at security and preparedness have already been under way for some time, and have been reinforced by the findings of the In Amenas investigation."

She reports that security staffing has been increased, with additional expertise recruited. That applies not only to the company's foreign operations but also to other business areas.

"We're appointing dedicated personnel to be responsible for security in all parts of the business, in addition to our central corporate resources."

But the improvement work is not only about providing additional resources: "It's also a matter of raising awareness in the organisation – the attitude each of us has to security. All our employees have a responsibility for safety and security."

EYE-OPENER. The terrorist attack in Algeria proved an eye-opener, both for Statoil and for many others. Hilland says it presented a new type of risk the company had not been sufficiently aware of before.

"It may have existed, but we hadn't quite taken the threat properly on board – as a nation, as a company and as individuals."

Asked whether Statoil employees have more reason to be worried now than before, she denies that it has become more dangerous to work in the petroleum industry.

"But it's important to be conscious of this risk. The threat isn't static, so we must have a dynamic approach to our work on security.

"We don't want people to be frightened, but we want all of us to be more aware, and that doesn't apply only to terrorist actions like the one we saw at In Amenas.

"Security risk is just as much about computers and telecommunications, document management, how we behave while travelling, communication and so on."

BENEFIT. Statoil will seek to benefit from solutions and results achieved in the traditional safety field in its efforts to strengthen security, Hilland says.

"An important job for us now is to carry our safety-related expertise, systems and culture over into the work we're doing to become more secure.

"At one level, safety and security are two different things – the first involves risks found within, while the other is about external threats or attacks.

"Nevertheless, the way we as an organisation work with these two aspects has certain features in common – the framework and the systems. We can benefit from much of this."

Statoil's improvement efforts include developing a good management system, defining requirements, and ensuring that it has the necessary expertise and capacity in the security field.

EXPENSE. A key question is whether the all-out effort to strengthen security will be pursued at the expense of the company's work on operational safety.

Asked whether a balance can be struck, Hilland promises that there is no cause for concern. "Safety work will be maintained at its previous level.

"It's important that we as an organisation achieve this even when making such extensive efforts to strengthen security. We must and will manage that.

"We're pumping in resources and strengthening security, but this won't, can't and mustn't be at the expense of our other safety work."

She emphasises that both security and safety form part of Statoil's overall safety concept.

STRENGTHEN. The In Amenas report identified five areas where improvements could strengthen the company's overall ability to handle security risks.

While the first focuses specifically on In Amenas and other facilities in Algeria, the others deal with general concerns – organisation and resources, risk management systems, crisis preparedness/response and collaboration/networks.

"These recommendations are relevant for all parts of our business, including here in Norway," Hilland emphasises.

WORKED. "It's important to note the things which functioned well during the In Amenas incident," she adds. "I was personally present at the centre for relatives we opened in Bergen.

"It made me proud to see how the organisation functioned in such demanding circumstances. It was professional and efficient. In Amenas was a terrorist attack, but we used the same resources which would have been mobilised for a safety incident."

TRANSFERRED. Hilland is also concerned to ensure that the experience acquired by Statoil can be transferred to other companies, including players in the Norwegian oil and gas industry.

"This problem isn't confined to In Amenas or Algeria, and it's not specific to us," she points out. "Increased preparedness is necessary for the whole industry.

"We've accordingly initiated a collaboration with other companies, government agencies and organisations such as the Norwegian Oil and Gas Association."

But the improvement work is not only about providing additional resources: "It's also a matter of raising awareness in the organisation – the attitude each of us has to security.

CHANGING THREATS

An acknowledgement that security efforts throughout Statoil needed strengthening came from chief executive Helge Lund when the In Amenas investigation report was published in September.

The company's ability to identify and respond to the risk of deliberate attacks was heavily criticised in the findings, which identified a number of areas where improvements were needed.

Running to almost 80 pages, the report was produced by a team led by Torgeir Hagen, former head of the Norwegian Intelligence Service.

"Safety is a precondition for our entire business," said Lund. "We've developed systems, knowledge and expertise on operational safety over 40 years, and much good work is done here.

"Protection against forces which deliberately want to harm our company is another aspect of safety. And the investigation report notes that this area needs reinforcing."

Statoil does have systems, Lund added. "But these must be improved. We make risk assessments, but these must be better and more broadly based. We have expertise, but this must strengthened and developed in new areas."

ACCEPTABLE. "We consider that safety is acceptable for our employees in Norway and internationally," said Lund. "But we're facing a changing array of threats.

"The sign of a strong safety culture is the ability to understand and handle changes. We must therefore constantly update our risk assessments and adopt new measures when necessary."

He emphasised that attention has primarily been concentrated on operational safety. "As a company, we've been more accustomed to and have much experience with developing safety systems.

"We have more expertise with what I'd call operational safety. Given our history and background, this is where our attention has primarily been concentrated.

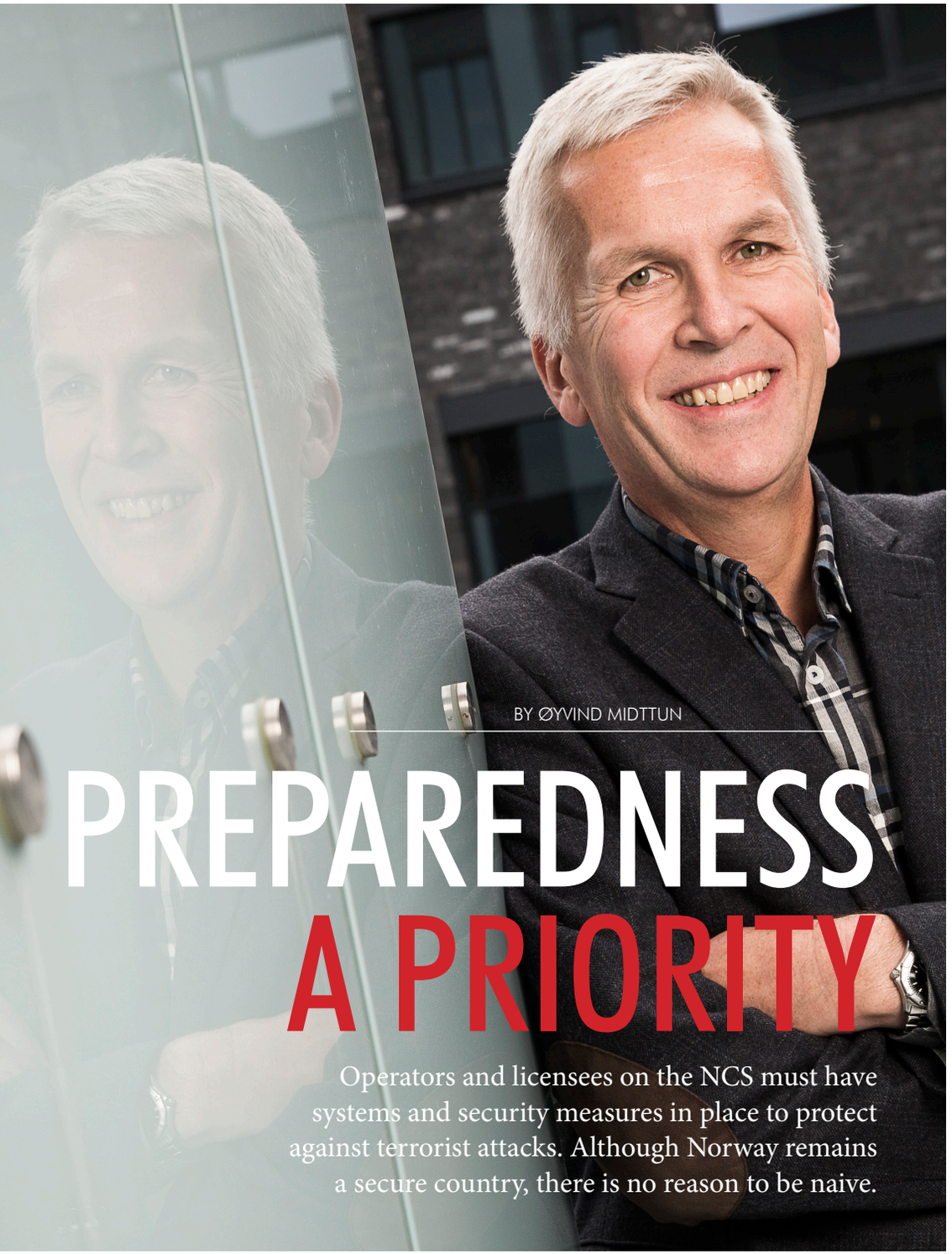
"Then we've gradually got a better grip on and management of this [security] type of safety. But the report concludes very clearly that we're not good enough at this."

Lund said that Statoil must give the issue a higher priority and more resources, and must get a more coherent handle on it.

"We have systems and expertise, but too little of them. Our job is now to ensure that security receives sufficient management attention, greater expertise and more systematic treatment."

"We have systems and expertise, but too little of them. Our job is now to ensure that security receives sufficient management attention, greater expertise and more systematic treatment."

FORTY PEOPLE WERE KILLED during the assault on the In Amenas facility in Algeria during January. Five of them worked for Statoil. (Photo: Kjetil Alsvik/Statoil)



BY ØYVIND MIDTTUN

PREPAREDNESS A PRIORITY

Operators and licensees on the NCS must have systems and security measures in place to protect against terrorist attacks. Although Norway remains a secure country, there is no reason to be naive.

The petroleum industry has always had to prepare for and protect against deliberate assaults. But incidents such as the outrages in Norway on 22 July 2011 and the In Amenas hostage drama this year have greatly increased Norwegian concern with the issue.

Responsibility was delegated to the PSA in early 2013 for enforcing section 9-3 of the Petroleum Activities Act on emergency preparedness against deliberate attacks.

Pursuant to this provision, licensees must "initiate and maintain security measures to contribute to avoiding deliberate attacks against facilities and shall at all times have contingency plans to deal with such attacks".

"Delegating enforcement of this section to us represents a clarification of our authority," explains Finn Carlsen, one of the PSA's directors of supervision.

"It covers following up work by the players on health, safety, environmental protection and emergency preparedness – including their readiness to deal with deliberate assaults."

PRIORITY. *Prevention* and improvement of both safety and security levels are the top priority. This involves *avoiding* harm to people, the environment and material assets, managing risk and having systems and barriers in place to ensure acceptable operation.

In addition, prevention deals with protection against conscious, deliberate threats and actions.

"Norway is still a secure society to both live and conduct business in," emphasises Carlsen. "But we have no reason to be blue-eyed.

"The threats we face are constantly changing. Recent incidents both at home and abroad provide terrible reminders of how important it is that the companies are aware of the threats, have the necessary systems in place and are well prepared."

RESPONSIBLE. The companies themselves are responsible for complying with the regulations, both in preventing accidents and undesirable incidents and in protecting against deliberate attacks.

"Our job as the regulator is to supervise that the companies fulfil this responsibility," observes Carlsen. "We also check that cooperation in the industry and between the players and government resources is effective.

"We monitor that the companies have adequate management systems, have plans and procedures in place, are prepared to respond appropriately and have adequate barriers."

The PSA conducts specific audits focused on the industry's preparedness to deal with deliberate attacks, Carlsen adds.

"Our impression so far is that the companies have good systems and barriers. But it's important that they ensure continuous improvement and actively learn from relevant incidents."

NECESSARY. It is up to the companies to decide which specific security measures are necessary, and how their emergency preparedness plans are to be configured.

"Detailed knowledge of the facilities rests with the operators," Carlsen points out. "They must analyse the threats, and know what must be protected and against what.

"We supervise that the overall level of security meets the requirements, but responsibility rests clearly with the companies. And that requires them to have sufficient knowledge, expertise and resources to exercise it."

DEFINITION

Security can be defined as protection against undesirable but deliberate actions and incidents.

THE LAW

Section 9-3 of the Petroleum Activities Act on emergency preparedness against deliberate attacks reads: "The licensee shall initiate and maintain security measures to contribute to avoiding deliberate attacks against facilities and shall at all times have contingency plans to deal with such attacks."

THE PSA HAS BEEN GIVEN REGULATORY RESPONSIBILITY FOR SECTION 9-3 of the Petroleum Activities Act, and supervision director Finn Carlsen is strengthening follow-up of the industry's preparedness against deliberate attacks. (Photo: Morten Berentsen)

LIGHT ON A DARK DAY

More than two years have passed since Norway experienced the unthinkable – the terrorist outrages of 22 July 2011. The inquiry report which followed prompted many government measures. But what has been the effect in the petroleum sector?

BY EILEEN BRUNDTLAND

ALEXANDRA BECH GJØRV chaired the commission of inquiry into the terrorist outrages in Oslo and Utøya on 22 July 2011. (Photo: Emile Ashley)

Reflections on the significance of the inquiry to an industry well known for safety thinking, emergency response and accident investigations were provided on 12 June this year.

Alexandra Bech Gjørv, who headed the independent investigation into the terrorist attacks by Anders Behring Breivik in Oslo and Utøya, was addressing the Safety Forum's annual conference.

She spoke powerfully and matter-of-factly about that dark summer's day, reminding her audience about the glass which rained over central Oslo from the bombed government buildings.

Her review spanned from the Post-It note with the number of Breivik's escape vehicle, which lay untouched for 20 minutes in the police operations centre, to the shots fired at Utøya.

Other incidents included the understaffed operations centre at North Buskerud police district, which was overwhelmed by calls from terrified young people at the island camp.

Gjørv also mentioned the rapid response team which drove at breakneck speed from Oslo while desperately trying to get through on the communications network.

She recalled the wrong rendezvous, an overloaded rubber dinghy, heroes in small boats from surrounding campsites, Breivik's arrest and the loss of 77 lives.

DATA. The investigation into the outrages involved systematising huge amounts of data, Gjørv explained. These included the whole operational log from every police district throughout 2011.

More than 800 people were interviewed directly by the commission, while almost 4 000 more responded to a questionnaire.

The next step was to put together the pieces of the jigsaw puzzle in an attempt to establish what had happened, why, and what lessons were to be learnt.

Published just over a year after the incident, the inquiry report made brutal reading. The attack on the government buildings could have been prevented, and the authorities failed to protect the victims on Utøya.

FAILURE. While the police as an institution came in for tough criticism, with both extensive system errors and weak leadership slated, the report also identified failures by individuals.

Gjørv noted that great personal responsibility rests on everyone with safety and emergency response duties. But she also emphasised that a balance must exist between system and person.

The 22 July incident revealed precisely that the system was so weak that the people directly involved in it were placed in a wholly unreasonable position.

"Those who had these difficult jobs deserve praise for the responsibility they accept on a daily basis," said Gjørv, a lawyer who has also served as an industry executive.

"At the same time, we can't have a culture where nobody ever dares to talk about the mistakes made. The system is wholly dependent on individuals accepting their share of responsibility.

"Nobody's infallible. But if we fail to say that individuals must do their job better, for fear of upsetting somebody, we do society a grave disservice."

THINK. Gjørv emphasised that she does not want to *translate* the inquiry report, but to talk about it in a way which gets people and industries to think for themselves.

But do its findings contain lessons relevant for the petroleum industry? The latter has done many sensible things in its approach to safety and preparedness, Gjørv said.

"Good plans and regular exercises are crucial for emergency response. Our principal recommendations on risk recognition, ability to act, collaboration, information and communications technology, and a result-oriented leadership are decidedly present in the petroleum industry's safety work."

Gjørv again stressed the importance of being conscious of the responsibility which rests on the individual.

"It's not enough to play your own role adequately. If you simultaneously fail to see that problems are being solved, it becomes a responsibility for everyone - and particularly for managers – to take the initiatives required to find solutions."

FUNDAMENTAL. "The fundamental distinction between what went well and badly on 22 July related primarily to attitudes, culture and leadership, and to the way people and organisations exercised the authority entrusted to them," the report stated.

"What we emphasised was the individual's responsibility not only to ensure that the regulations were observed but also to remember what they were for," said Gjørv.

She mentioned the Grubbegata street alongside the government buildings in Oslo as an example. The decision had been taken to close this off, but cumbersome bureaucracy and misunderstandings meant it was never done.

So a white van filled with explosives could drive up and park right alongside the high-rise block which forms part of the government complex.

"Everyone involved felt that they were doing what was expected of them, but they all saw that the problem wasn't resolved," observed Gjørv. "That didn't represent good preventive action."

PLANNING. Addressing the question of how one can actually prepare for the unthinkable, Gjørv saw this as a matter of good planning followed by applying the plans and improving them through exercises.

The extent to which plans were followed was precisely the crucial reason why things went wrong in some areas on 22 July and right elsewhere.

"Drawing up good plans forces you to think through risk and potential outcomes," Gjørv noted. "When you train in implementing these plans, you exercise in mastering the whole keyboard.

"And it's knowing where the keys are located and how the notes can be combined harmoniously which makes it much easier to improvise."

The health service was one of the agencies which mastered the art of improvisation on 22 July, according to the investigation report.

"It has a far more complex organisation than the police," observed Gjørv. "More training across organisational boundaries nevertheless allowed it to master this structure better.

"The planning framework in the health service is also more detailed and, in addition, it's good at improving these plans in the wake of exercises."

Gjørv reported that the commission visited London to meet the UK Home Office. The British officials explained that the biggest lesson they had learnt from their many crises was the importance of a well-thought-out interface between the various bodies involved.

"Good plans mean that you understand the human and material resources available and how these can interact," she said. "That's the important consideration."

"Nobody's infallible. But if we fail to say that individuals must do their job better, for fear of upsetting somebody, we do society a grave disservice."

RESPONDING TO THE UNFORESEEN

Risk management and preparedness are central and relevant issues for many social sectors beyond the petroleum industry. Assessing risk and managing crises are everyday activities for the police.

BY SINDRE BØ

"We must be ready to respond to something happening in 10 minutes which nobody had expected and which you can't expect anyone to have thought of," says Hans Vik, head of the Rogaland police district.

"All the same, it's our job to deal with the consequences. How can you handle the unforeseen? That's the key question."

Crimes are being committed all the time – great and small, usual and unusual – and must be dealt with continuously. Things occasionally get really serious.

That was the case when almost a dozen robbers went on the rampage in central Stavanger on a spring day in 2004. Nobody had expected the force of the attack or the gang's brutality.

The Nokas robbery is history now. A policeman was killed, more than NOK 55 million was stolen, all the thieves were caught and have been punished.

This dramatic incident in the heart of Norway's "oil capital" proved a watershed for the Rogaland police – call it their own 22 July. What have they learnt, and what effect has the lessons had?

"People often ask us that," says Vik. "But it's difficult to give an exact answer, because I'm continuously implementing measures and changes which I believe to be right.

"They could be motivated by 22 July or Nokas, but might also be adopted because of other incidents. And they could be the outcome of thoughts and ideas developing over a long time."

POSSIBLE. Faced with the issue of whether it is impossible to plan for the unthinkable, Vik counters by posing a question of his own – what do we mean by "unthinkable"?

"Was the attack on Pearl Harbor unthinkable? The 9/11 outrage in the USA? If something's unthinkable, then that's precisely what it is.

"THE ABILITY TO IMPROVISE IS IMPORTANT," says Hans Vik, head of the Rogaland police district. "It's impossible to lay detailed plans for every eventuality." (Photo: Morten Berentsen)

"Perhaps we have to distinguish between unthinkable and unlikely? And perhaps we must also distinguish between deliberate actions like robbery or terrorism and accidents or natural events.

"I believe the key issue is mental preparation. You need to be ready for something that you haven't prepared for."

In addition to heading Norway's third largest police district after Oslo and Bergen, Vik participates in a change programme at the National Police Directorate.

He has been put in charge of one of the five priority areas, covering management, leadership and culture. That is no small task, given that the inquiries into the Nokas robbery and the 22 July outrages identified more than 200 lessons for the police.

Vik defines the essence of learning as "experience in order to get better next time", and notes that people learn from both exercises and incidents.

"A good many specific measures have been implemented in the wake of the Nokas affair – some public, others not. A national intelligence system to share information across police districts is one. Others are a new operational alarm system and improved media management."

Incidents happen, plans are laid, exercises are staged and new emergency preparedness is constructed – all in order to improve the ability to respond to crises.

This is an eternal cycle, an everlasting balancing act between prevention and crisis management, intelligence-gathering and investigation. Vik sees no contradictions in this.

"Preventive work extends far more widely than most people imagine. It's one of our principal jobs, and we're constantly pursuing it with volunteers, the public and media as well as directly with criminals.

"Investigation is also a form of prevention. The whole point of investigating and prosecuting is its preventive effect both on the perpetrator and the public. It gives us information about communities which can stop new crimes occurring."

OFFSHORE. The Rogaland police district differs from all the others in Norway because it is responsible for the NCS, including investigation, support and contingency planning in the North Sea.

That involves interaction with the oil and gas sector at a number of points, and Vik says the police have picked up a number of ideas from the industry since the mid-1990s.

"These cover such areas as health, safety and the environment, internal control, and reporting on undesirable incidents. We also learn from participating in oil industry exercises.

"In a given incident, too, we depend on the expertise of the operator. We don't basically have any detailed knowledge about the installations and operations out there."

But Vik emphasises that the petroleum industry has a completely different level of control over incidents than the police does.

"An operator can plan in detail where a pipeline is to be laid and predict the risk of such an operation to a great extent. It has a good overview of conditions.

"For us in the police, the position is often unclear, time is short, uncertainty prevails – all the characteristics of a crisis.

"An oil company is familiar with its defined hazards and accidents, and can create a thick file simply to document how two pipes are to be screwed together. That's prevention.

"If we're going out to arrest 'John Doe', we can't give the patrol a file corresponding to those two pipes. But we can call up all the data we have on him – his address, his criminal record, who he hangs out with.

"We try to form the best possible picture of the position, which can often be diffuse and hazy. We can't see everything as clearly in advance as the oil industry perhaps is able to.

"That's where the petroleum sector could have something to learn from us – how to deal with hazards and accidents which can't be precisely determined."

DIFFICULT. Terrorist scenarios can be difficult to define, and police participation in an oil company exercise earlier this year clearly made a big difference.

An officer with special expertise in negotiating with terrorists and hostage-takers provided advice which cannot be found in any oil company's plans.

In this case, the lessons were obviously passed from the police to the petroleum sector – and were highly relevant in the light of the In Amenas attack.

The oil industry's security regime has won praise in many quarters, and former prime minister Jens Stoltenberg has hailed it as a source of preparedness lessons for the whole community.

Vik has also understood that the industry is saturated with security routines and procedures. For better or worse, he notes, the police are more flexible.

"Examples of parodic safety rules can perhaps be found in oil companies, but you can certainly find cases in the police which the petroleum sector would have called pliability.

"We're good at responding to immediate events, and are trained to handle crises where you've got to be bound by regulations in a way yet must also use pretty broad discretion. The latter can be erroneously interpreted as 'no guidelines or procedures'."

Vik emphasises that plans and procedures cannot cover every eventuality when you are in the middle of an incident.

"Some people regard that as a case of 'this is unmanageable, I can't cope with it', but it's precisely where the expertise of front-line police officers lies.

"A rigid procedure could be useless because conditions vary from one occasion to another. Competent officers in the front line must be able to deal with lack of clarity, uncertainty and vague conditions, sufficiently freed from the underlying routines.

"We're often asked why we don't have routines for this and that. The answer is that we can't lay detailed plans for every eventuality. That's impossible."

FREEDOM. Faced with the original question of whether planning for the unthinkable is possible, Vik says he is concerned to give his officers freedom to decide the right response to circumstances.

"In that way, I also create an acceptance that errors can be made. When we judge our responses, a broad area is known as acceptable and positive performance of duty.

"Then comes a narrower range where the action taken could be more debatable and less positive, followed by one where the things done are more criticisable and ultimately punishable.

"The last of these categories is normally very clear. The point is that we can often learn more from the dubious cases – those which aren't so obvious and are more borderline."

A better overview of the circumstances is always useful, Vik emphasises. "To achieve that, we really need a '360-degree' picture of social conditions which give me as police chief the best possible management information.

"We can always use better equipment and training, too. But the best lessons are learnt by working in the front line, out in the field, and we do that every day. Such learning never ends."

"An operator can plan in detail where a pipeline is to be laid and predict the risk of such an operation to a great extent. It has a good overview of conditions. For us in the police, the position is often unclear, time is short, uncertainty prevails – all the characteristics of a crisis.

GETTING TO GRIPS WITH RISK

Some of the biggest disasters in the petroleum industry were events most people had refused to believe possible. It would be unrealistic to think that similar incidents will not occur again.

BY THOR GUNNAR DAHLE

Incidents with very substantial consequences, which most people thought to be highly improbable but which can typically be explained with hindsight, are known as "black swans".

This term has roots which stretch as far back as the 16th century, but has acquired increasing relevance as the world has shrunk and societies have become more complex.

The terrorist attacks of 11 September 2001 in the USA and 22 July 2011 in Norway are dramatic examples of such events. But a black swan can also be regarded as positive.

Examples of the latter include the introduction of the internet or the collapse of the Soviet Union – disastrous for some in the business world and beneficial for others.

GUIDELINES. The PSA – then part of the Norwegian Petroleum Directorate – issued guidelines on safety evaluation of platform concepts as far back as 1981.

Representing initial requirements for managing major accident risk, these defined a lower limit for the probability of incident types which could be ignored in an assessment

This made clear for the first time that it was necessary to accept that all human activity – including the petroleum industry – involves risk.

ANALYSES. The guidelines were replaced in 1991 by regulations on the conduct of risk analysis, partly because giving acceptance criteria for probability in numerical form led to a lot of "number juggling".

Companies wanted to use such calculations to escape the need to assess certain types of accidents, even where they were clearly relevant for the risk picture.

The new regulations established the principle that risk analyses are meant to identify which incidents might occur, not provide evidence that a chosen solution meets official rules on acceptable hazards.

It was made clear that such analyses must form the decision basis for choosing relevant and efficient solutions - and that their assumptions must be followed up systematically in the operations phase.

RARE. Avoiding major accidents in the petroleum sector has a high priority at the PSA. Precisely because such incidents are fortunately rare, decisions cannot be based solely on experience from earlier incidents.

Major accidents are unique. They may have features in common, but could nevertheless be very different from each other in terms of both causes and effects.

Industry participants need to accept that the petroleum sector, and the whole global picture it forms part of, is complex and unpredictable.

PREDICTING. "Traditional risk analysis builds on predicting accidents with the aid of experience, factual knowledge and simple models," says Ingrid Årstad, a PSA veteran on risk management.

"But studies of black-swan incidents show that such methods don't pick up important aspects of extreme events."

Currently studying for a PhD at the University of Stavanger, she nevertheless says that black-swan thinking does not mean that classic risk analyses are useless or unnecessary.

"There's always room for improvement in these studies, and not least in the way they're used. But traditional approaches are absolutely fine when they're used correctly and at the right time.

"These analyses are particularly useful in connection with barrier management and in the early phases of development projects."

MECHANISMS. "A number of accident theories, including the black-swan thesis, point to mechanisms which derive from the context for barrier management," Årstad explains.

"The petroleum industry and its global setting have changed a great deal, and increasing complexity means increased vulnerability and uncertainty.

"A number of accident mechanisms aren't – and can't be – picked up by traditional risk analyses. In other words, we need *something more* rather than *replacements* for these studies."

Something more includes getting better at understanding what risks could be created by decisions which almost nobody considers relevant for safety, and what creates robust and safe organisations in complex systems.

"Those who work with these theories point to many important priority areas, such as a commitment to technical expertise," says Årstad.

"Others include strengthening ownership of safety among more people, in ways better suited to the individual's responsibility and authority, and using more models and tools.

"These are voices we should listen to in order to avoid major accidents in the future."

See also the opinion piece on page 22 about black swans and safety.

The black swan *was originally a metaphor for the impossible or completely improbable. But explorers then found such birds living in Western Australia.*

So it was adopted as the doubly appropriate symbol for the fourth international conference organised by the International Regulators Forum (IRF).

In addition to being staged in Perth, capital of Western Australia, during October, its programme concentrated on major accident risk.

BLACK swans & safety

BY EINAR ØVERENGET

Knowledge is power, English philosopher Francis Bacon asserted. That is because it can equip us to control and exploit nature for our own benefit. By understanding and explaining our surroundings, we can create a stable and predictable world – a place where what happens actually has a meaning.

A sense of security is provided by knowing why something is the way it is, and why one thing happens and not another. Knowing in advance makes us feel secure – we can rely on life tomorrow not being radically different from today.

The modern person is intoxicated by the power conferred by a knowledge of causes. At one stroke, we have control over what happens – and is to happen.

However, one type of knowledge exists which does not equip us to predict the future,

and that is the awareness that the unexpected can happen.

Quite independently of what we know or have reason to expect, life tomorrow could be radically different. The completely improbable can happen, an event we had absolutely no reason to expect – because we have never experienced it before.

It had been established a long time ago that all swans were white. That was something everyone knew. Nobody had ever seen a swan of any other colour. So it was assumed that no non-white swans existed.

But that turned out not to be true, because black swans were found in Australia. The assumption that all swans are white was accordingly shown to be false.

But as long as nobody had ever seen a black swan, there was no reason to assume that they could be found. It was quite simply improbable. Not because it was impossible. After all, everyone can *imagine* that swans could be other colours than white. But there was no reason to expect it.

On the basis of this discovery, Lebanese-American philosopher and mathematician Nassim Taleb has formulated a theory he calls black-swan logic.

He is not primarily concerned with the birds as such. Instead, he seeks to apply the logic to all the expectations we have of the way the world is. What we regard as probable, may appear to be so only because we have never experienced anything which could point to other probabilities.

Calculating probabilities is based to a great extent on the expectation that what will happen tomorrow is something we can probably expect today. What seems less likely is also less probable.

But what about all the things we had not even imagined would happen, which have never happened before. Are *they* also completely improbable? Naturally not. This is where the black-swan logic comes in. The completely improbable is also possible. What we cannot even imagine can obviously happen.

It is not necessary to do more than cast our minds back a couple of decades, and compare the expectations we had for world developments with the things we take for granted today.

We have all seen black-swan logic in action. All of us have found that things we had no reason to expect actually happen. We have not even reflected on what was so improbable that it had never occurred to us.

Think 20 years ahead – what things we cannot even imagine today will be a matter of course then?

One way to meet the future is to think that nobody can predict what will happen with certainty, but that what will occur is one of several likely possibilities we can imagine today. But why should things actually be like that? It might be equally likely that the completely improbable will happen, the things nobody has any reason to expect today.

This naturally represents a challenge for all forms of safety work. Petroleum operations involve a risk, and we have many examples of major accidents. Regardless of how serious such incidents might be, however, eliminating risk is impossible.

We can naturally do our utmost to eliminate the probability of accidents. But what can we do about the improbable incidents. Can we plan for these? Can we take control of the inconceivable?

In the nature of things, this is very difficult. We have no power over the unimaginable – precisely because we cannot imagine it. But we have *some* power, in the sense that we can conceive that we cannot conceive it – and that represents a valuable insight.

The ability of people to calculate what the future might bring in terms of possible events is admittedly governed by earlier experience, which limits our capacity to think the unthinkable.

But humans also possess a faculty for imagining that the world could be completely different. *This* is the ability which underlies development and change. And even though people can make mistakes, we must never throttle this ability through fears of human error.

Good safety work calls for robust systems and organisations which pick up the errors and safety breaches which occur. But interaction between the system and people must not reduce the latter to pawns in the former – and we must not expect the system to take care of safety. We must also give room for the individual's silent, experience-based knowledge, which enables it to smell danger.

EINAR ØVERENGET (born 29 January 1964) is a Norwegian philosopher, author and lecturer. He has a DPhil from Boston College and heads the Activa Academy of Humanities, which he helped to found in 2000. Øverenget was one of the expert witnesses who testified at the trial of Norwegian terrorist Anders Behring Breivik.

NOW OR NEVER

Companies must agree on binding and specific collaboration, the industry must accept responsibility, and it must be done urgently. These three points sum up the PSA's expectations of players who want to participate in the Barents Sea and the northernmost NCS.

BY INGER ANDA

"COLLABORATION Is the key to good safety in the far north," says Sigurd Robert Jacobsen at the PSA.(Photo: Morten Berentsen)

The PSA has resolved to define the far north as one of its four main priorities for 2014. That is timely and crucial, observes Sigurd Robert Jacobsen.

As the agency's leading expert on the far north, the Arctic and the Barents Sea, he notes that the PSA has been working on issues related to Norway's northernmost seas since the 1980s.

"But this subject has now been raised with full force in the Norwegian petroleum industry. Big discoveries have been made in the Barents Sea and many companies want to explore there.

"Attractive blocks have also been put on offer, and important decisions are soon due to be taken on activities in the far north. We have an important role in this."

Jacobsen emphasises that what has long been confined to *future scenarios* will be materialising within one to three years as specific consent applications to the PSA.

"That represents a big challenge. Once a formal request has been submitted, it's too late in many respects – and very expensive – to make big changes.

"So it's important that companies seeking consents start talking to us well in advance. We have a good dialogue today with Statoil, for example.

"It's the biggest of the players, and we're very familiar with its plans, requirements for clarification, challenges, measures and discussions.

"But the picture's very different with a number of the other companies. They must ensure that contact has been established with us in good time."

He emphasises that taking such an initiative is the responsibility of the companies themselves, and not up to the PSA.

"We'll be keeping a firm grip on consents for activity in far northern waters. We've no desire to play the role of an agency which has to call a halt far along the road in a planning process – but if we have to, we will."

Jacobsen secured an MSc from the University of Stavanger in 2012 with a dissertation on evacuation and rescue in the Barents Sea – critical issues for safe petroleum activity.

He believes that the key to good safety across the range of operations on the northern NCS can be summed up in a single word – cooperation.

"We're now starting to move really far north and a very long way from land. That means the oil companies and rig contractors must collaborate.

"These players must accept responsibility, and should be using the Norwegian Oil and Gas Association to work towards collective solutions.

"That organisation has the necessary muscle and is sitting in one of the driving seats. It should be seizing the steering wheel."

Developing a positive level of safety in the far north is a common responsibility which rests with the industry, Jacobsen emphasises.

"Without collaboration and agreements between the players, we're unlikely to succeed with the planned activities in the Barents Sea. That applies to both exploration and development.

"Specifically, the companies must work together on conducting exploration drilling simultaneously in the same areas in order to comply with regulatory requirements.

"This is a very topical issue. In *practice*, collaboration between several companies is the only way we can achieve safe operation."

The far north ranks moreover as a key issue in the Safety Forum, which is chaired by the PSA and brings together companies, unions and government.

Establishing good arenas for company-union-government collaboration over petroleum operations in the far north is also being followed up by the PSA through this body.

Specifically, Safety Forum participants are drawing up a list of challenges related to technology, operation, the working environment, emergency response and so forth.

"He believes that the key to good safety across the range of operations on the northern NCS can be summed up in a single word – cooperation."

This will be submitted to the programme committee for HSE challenges in the far north, which is being chaired by Norwegian Oil and Gas.

RISK. "The *safety* heading covers all parts of the industry's operations – the risk of major operations, working conditions for personal and environmental protection," says Jacobsen.

"Darkness, cold, ice, changeable weather conditions and long distances from land are among the natural problems faced in the far north.

"They present challenges related to technological and operational solutions, emergency preparedness, logistics and geography.

"Others include access to rigs and equipment, the quality of rigs, collaboration over such units, winterisation, and transport solutions in general and helicopter transport in particular."

A fixed point in the Barents Sea will be essential as a refuelling stop and secure haven for helicopters unable to reach landing sites such as Bear Island, he observes.

"Many people have pointed in that context to Statoil and the licence due to develop Johan Castberg. We've noted that this discovery is ideally placed between the mainland and Bear Island.

"It could also play an important role in further offshore development of the Barents Sea region, and we're very keen to see what the licence decides and what part Statoil will play in integrated thinking for the area."

Both Johan Castberg and Goliat are favourably placed for expansion *north-westwards* in the Barents Sea, Jacobsen says. Further *east*, the challenges faced are different.

"In connection with opening Barents Sea South-East, the Storting [parliament] has specifically asked us to look at the challenges concerned.

"These relate to such aspects as technology, operational conditions and emergency preparedness. We're currently working on this."

WRONG. In the PSA's view, having to use the regulations to *force* through the necessary development in the far north would represent the wrong approach.

"The limits in the regulations are fixed," Jacobsen points out. "On that basis, the companies must come up with solutions and present them to us.

"They need to do that on their own initiative, in good time before submitting consent applications, and based on collaboration and a collective industry understanding.

"Dialogue is the key. That's got to happen ahead of the application processes, and be conducted between the companies, the unions and government."

He emphasises that *prevention* of undesirable incidents occupies a central place in the industry, and the regime now being established in the far north must be robust.

"Very stringent standards and expectations are set for the companies who will operate in these climatically and geographically challenging and vulnerable areas."

ICE. Jacobsen also stresses the importance of remembering that climatic conditions in the Barents Sea are not static, and that the marginal ice zone does not necessarily cover a stable area.

"Big annual variations can occur, with the ice moving further south than we've seen in recent years. Planning must take account of such natural variation."

In technical terms, he adds, a safety success in the Barents Sea could help to clear the way for future activity in the Arctic. The probability of ice is high north of the 74th parallel, and bearing that in mind will be important.

"But extensive research lies ahead. We know a lot about conditions in the far north, and a great deal about what we need to know more on.

"We're otherwise pursuing extensive dialogue and collaboration with international agencies regulating activities in the Arctic region.

"In our view, the challenges in the far north and the Arctic can be overcome. But both the industry and government have an important job to do. Right now."

NEW PAGE BUT THE SAME CHAPTER

A high level of safety is both necessary when moving into the Arctic and a commercial edge there, says Liv Monica Bargem Stubholt, head of strategy and communication at Norway's Kværner company.

BY TORBJØRN GOA

LIV MONICA BARGEM STUBHOLT at Kværner believes the industry has what it needs to overcome the challenges in the far north. She regards operations there as a natural extension of what the Norwegian petroleum industry has already been doing for several decades. (Photo: Kværner)

In Stubholt's view, the oil industry itself will opt for a step-by-step approach to establishing operations in challenging regions of the high north.

Moreover, she believes, much of the innovation needed to overcome the challenges involved will be generated by large specific projects.

"Innovation is often very project dependent," notes Stubholt, who has previously served as a junior minister in the ministries of both foreign affairs and petroleum and energy.

"Many people say that we must pursue research and development *before* launching a project. That's fine, but it should be supplemented with the innovation which only a project can create.

"I think it's wise of the government to maintain a fact-based approach to the management regime, so that we understand as much as possible about regions being opened to operations."

DEBATE. She feels that the public debate in Norway on activities in the far north occasionally becomes simplistic.

"It gives the impression that people must resist a sector which is eagerly piling on the pressure and seeking speedy full-scale development in the far north.

"What we actually see is that the industry has a cautious attitude, taking one step at a time. My impression is that developments in the far north are taking place at a pace which allows consideration and reflection – and the authorities have room for detailed analysis of requirements and challenges."

In her view, the differences between the challenges in the far north and those further south should not be exaggerated.

"We often talk about 'a new chapter'. But we could equally well say that we're now continuing to write a chapter we've already begun.

"Major technological issues, difficult weather conditions and problems with temperature and pressure have been and are being overcome in many other parts of the NCS.

"As I see it, operations in the far north are a natural extension of what Norway's petroleum industry has been doing for several decades. But a fully acceptable level of safety remains an absolute requirement.

"I believe the industry has what it needs to overcome the challenges in the far north. But we must also admit that climate, winter darkness and political considerations present particularly tough challenges in the northernmost part of the NCS."

APPLIED. Stubholt maintains that Kværner's technology and industrial expertise can now be applied in new ways in the far north.

"At the moment, concrete support structures for fixed installations represent our most important product for use in Arctic conditions.

"Many functions, such as cables, risers, drill pipes and mechanical equipment are enclosed and protected in this type of facility, which can be advantageous in areas with sea ice.

"Floating concrete structures also represent relevant and operationally secure solutions for regions with ice and deepwater currents."

STRONG. She points out that developments in concrete technology have resulted in very strong structures – simplifying a bit, as tough as bedrock.

"In areas with a lot of ice scour or wear from drift ice on the sea surface, concrete structures will offer very durable and resistant facilities.

"We've experienced this, for example, in Russia's Sakhalin project, where the ice cover becomes more than four metres thick while moving at a pace of up to four knots.

"That puts heavy pressure on an installation, so we applied a steel sheath to see if that gave extra protection. The ice wore that cover off within a year, but the concrete was unaffected. Its quality withstood the test."

Stubholt notes that players in the industry talk about most things in the future being done subsea, and admits that this could become a reality.

"Although subsea technology has made impressive progress, however, we still haven't reached the point where it can handle all requirements at every stage.

"Seabed installations depend, for example, on a certain level of infrastructure in order to be able to operate, and that's lacking in remote areas."

She believes that the challenges presented by limited infrastructure mean the use of large installations with room for equipment and storage should be considered.

A staffed facility could thereby be self-sufficient for a long period, even in the event of a supply line being disrupted.

"This isn't a question of 'competition' between subsea solutions and concrete installations. Both could be relevant choices for different applications in the far north."

FRAMEWORK. Stubholt believes that Norway's collaboration model will continue to provide the best framework for safe and acceptable development in the far north.

"This unique model is characterised by close cooperation between government, industry and unions, and has proved a big success," she points out.

She calls particular attention to the Norsok collaboration over standards as an important component in Norway's regulation of the oil industry.

"There's a danger that we'll take the benefits represented by this partnership for granted. Oil companies, suppliers and the government must accept their individual responsibility for the future of these standards, which will decay if they're not maintained and further developed.

"Norsok is very suited to its purpose and represents in reality a tool for HSE. It's important for ensuring first-class quality, and deserves active support."

"It gives the impression that people must resist a sector which is eagerly piling on the pressure and seeking speedy full-scale development in the far north."

Liv Monica Bargem Stubholt is due to leave Kværner in November to join the Hjort law firm as a lawyer.

STRAIGHT FROM THE TOP

Photo: Odfjell Drilling.

MANAGEMENT AND MAJOR ACCIDENT RISK. Over many years, the PSA has been following up the way company managements work to reduce the risk of major accidents. This issue is one of its main priorities for 2013.

SIMEN LIEUNGH

CEO,
Odfjell Drilling

1 **You recently attracted attention with the comment that you "hate booms" and that many companies are pushing the safety envelope dangerously far. What can the regulator and the industry jointly do to prevent this trend continuing?**

This is a case of raising awareness. An organisation, a company or an industry are no stronger than the weakest link. We must highlight the challenges faced by individual companies and the industry as a whole when demand rises towards a capacity ceiling.

During such phases, the market can easily take off, which could lead to weaknesses in HSE. Everyone has a responsibility here, but the customer must perform detailed qualifications to establish who has both ability and capacity in such periods.

2 **What particular safety challenges do you see in a market with a high level of activity?**

Expertise, understanding of risk and management are always crucial for good safety work. In a very active market, it's particularly important to maintain expertise requirements and ensure that our managers have operating parameters which make it possible to plan and improve their work in an acceptable manner

3 **Petter Osmundsen, professor of petroleum economics at the University of Stavanger, said at the Safety Forum's 2013 annual conference that "the industry is cyclical" and that "the players see the boom coming, but none of them want to brake". Is he right to claim that the industry fails to learn from earlier mistakes?**

I'm not sure that I agree with the professor on everything. Odfjell Drilling and other companies I've worked in have solid experience from both good times and bad.

Odfjell Drilling has been going for 40 years, and our principal shareholder can look back on more than century as an industrial owner. The ability to think of and protect the company's long-term interests is crucial in our strategy work.

4 **What special responsibility and challenges does the supplies industry face as petroleum operations move towards the Arctic?**

We aim to run our business in a secure and acceptable manner, regardless of where we conduct it. We're one of the few companies to have drilled in Arctic waters, with *Deepsea Delta* working on Shtokman in 2005. We know what's required. We have the rigs and the expertise to operate safely in the high north.

5 **What are you doing as a chief executive to reduce major accident risk?**

I am conscious of the need to provide a good role model through my behaviour and decisions. This means I want to set a positive example by taking the right decisions, and in relation to risk and the level of activity.

I demonstrate in practice that I support my managers when they cut back or halt an activity.

BARENTS SEA BRIDGEHEAD

People have lived on and from the sea for thousands of years in Finnmark, Norway's northernmost country. But nobody had built and operated a gas processing and liquefaction plant there before.

BY ØYVIND MIDTTUN

"We've pushed back boundaries here, both technologically and geographically," says Øivind Nilsen, production head at the Hammerfest LNG plant.

On a late summer's day, Europe's most advanced and complex gas processing facility and the world's northernmost export plant for liquefied natural gas is bathed in sunshine.

But Nilsen hurries away from the gleaming stainless steel piping to climb one shadowed flight of stairs after another before emerging at the highest point of the facility.

This offers a magnificent view when the weather is fine. But he has not brought me up here to show off the landscape, but to see how compact and complex the plant is.

"Here we combine something of what you find on an offshore installation with part of what you get in a conventional gas processing plant on land," Nilsen explains.

"We have a large gas-fired power station, a huge liquefaction unit and a separate plant for injecting carbon dioxide – all concentrated in a relatively small area."

PREFABRICATED. Much of the land-based plant was prefabricated abroad and shipped to Melkøya for assembly. The processing facility was built by a Spanish yard, for example, put on a barge and towed to the site.

This development solution means that the various components have been stacked one atop the other, creating a much more compact structure than elsewhere.

"Although we're on land, we've got to think safety in the same way as on an offshore installation," says Nilsen. "We have many stories, a lot of equipment in a small space and work at many levels – boosting the risk of dropped objects, for instance."

HAMMERFEST LNG is the world's northernmost export facility for liquefied natural gas, and the northernmost of the eight land-based plants regulated by the PSA. (Photo: Gunlaug Leirvik, PSA)

TORLEIF HUSEBØ, the PSA discipline manager for process integrity, (left) and PSA director general Anne Myhrvold with Øivind Nilsen, Statoil's production head for Hammerfest LNG.(Photo: Gunlaug Leirvik, PSA)

STORMS. People in Finnmark are used to storms, but the Narve extreme weather event which occurred in January 2006 takes some beating. And Melkøya was among the places hardest hit.

Very low temperatures, high winds and driving snow quickly combined to cover components and equipment at the plant with a thick layer of ice.

Construction was temporarily halted, and personnel were evacuated from the work camp to safer surroundings in central Hammerfest.

It was only 18 months before production was due to start, and the question was whether the new liquefaction plant could look forward to such conditions again.

"Narve was a freak event," Nilsen says. But the facility also faced difficulties with the tough coastal climate during its running-in phase.

Seven years later, he no longer regards weather conditions as a particular challenge for Hammerfest LNG and says that no major operational problems have been caused by the climate.

"It's not that cold here, and the plant is well winterised – including extensive use of heating cables. But the combination of strong wind and sea spray can present icing difficulties.

"Falling ice is a problem during the winter, exacerbated once again by the compact design of the facility."

Øivind Nilsen was production head for the Snøhvit gas field and Hammerfest LNG from January 2011 to August 2013, and is now head of safety and sustainability for Statoil's development and production international business area.

UNITY IN DIVERSITY

Insight and knowledge are important requirements in the supervision exercised by the PSA over eight petroleum plants on land in Norway.

These facilities run like pearls on a string from the Slagentangen oil refinery in Vestfold county south of Oslo to Hammerfest LNG in Finnmark.

"We take a unified approach to supervising the petroleum sector," explains PSA supervision coordinator Kjell Arild Anfinsen, who is responsible for all the land-based plants.

"The framework and management regulations are the same, and we work in accordance with the same set of priorities whether the facility is on land or offshore."

But the land-based plants have distinctive features compared with installations at sea. Nor are any of the eight the same. They differ in processes, technologies, owners and management systems.

Specialists with good insight into plant-specific challenges and solid knowledge of the individual plants are crucial for the PSA as a regulator, says Anfinsen.

"Hammerfest LNG at Melkøya, for instance, is Norway's only gas liquefaction plant. Apart from its unique technology, the very compact design presents challenges.

"Moreover, the far northern location of this plant creates problems – including with weather and temperature, which affect both equipment and employees."

The PSA has consciously chosen to give priority to following up major accident risk and the working environment at the land-based plants, and the results have been good.

However, several serious incidents have occurred because corrosion under insulating materials has not been discovered in time.

The most recent of these was at the Mongstad refinery north of Bergen in November 2012, when a steam pipe tore off and released large volumes of superheated steam and water at high speed.

Nobody was injured, but up to four people could have suffered life-threatening injuries or – in the worst case – been killed if the leak had occurred only a few hours later.

LEARNING THE LESSONS

The L8 industry forum was established in 2005 as a network for all Norway's land-based petroleum plants, discussing common issues and exchanging experience.

"This is a key arena for experience transfer and learning between the eight facilities, which have many shared challenges in the safety area," says PSA director general Anne Myhrvold.

She attended the L8 meeting at Hammerfest LNG on Melkøya this August. The PSA is not a formal member of the network, but attends its gatherings by invitation.

Myhrvold emphasises that learning involves more than simply exchanging experience. Sharing information is easy, but only the first step.

"If we're really going to learn from incidents and achieve the desired improvements, we need good and systematic follow up by the individual players. Learning doesn't just happen."

ANSWERING BACK

Photo: Industry Energy.

The PSA is often the one asking the questions in its dialogue with the industry. Now Leif Sande, leader of the Industry Energy union, has been given the chance to quiz the regulator.

BY MORTEN GJERSTAD

SANDE: We're constantly seeing infringements of the regulations because union officials and safety delegates aren't allowed to report and write in Norwegian.

We also find that the companies say failing to write in English will mean no reply or a delayed response. English is often defined as the working language in the companies.

How will you enforce section 14 in the framework regulations on the use of Norwegian?

PSA: The regulations say that Norwegian must be used as far as possible in the activity, but this is not an absolute requirement. Other languages can be used if necessary or appropriate for conducting the activity, providing this does not undermine safety.

Since the petroleum industry is an international business, a number of companies use English as their working language. This is acceptable as long as safety is maintained.

The language barrier can be a challenge, but the companies have a responsibility to ensure compliance with the regulations and make sure safety is maintained. We follow this up as part of our supervision.

SANDE: The report from the committee of experts on the future regulation of the industry is now out to consultation. We constantly find that your guidelines aren't being followed because they're not legally binding. We accordingly want the guidelines incorporated in the regulations.

Will you give weight to union proposals to the committee on a more specific set of regulations for safety and the working environment?

PSA: The government will go through the committee's report and the comments received once the consultation period is over. We are not unaware of the desire for more detailed regulatory requirements, particularly on the working environment. This has been the subject of a broad review, not least in the Regulatory Forum.

On a general basis, we can say that incorporating the guidelines in the regulations is not on the cards. The basic principles underlying the regulations mean that this would not be appropriate. In certain areas, however, we would be able to consider whether more specific requirements are needed.

SANDE: We see the petroleum industry is moving north and into Arctic regions. That could present challenges which differ from today's. How will you ensure that unions are involved in and have genuine influence over safety work in the far north?

PSA: It is crucial that those exposed to risk can participate in decision processes which are significant for HSE.

Worker participation is a cornerstone of efforts to establish and continue developing a high level of safety in the petroleum industry. Employees have both the right and the duty to participate.

We are responsible for running the Safety Forum as a tripartite arena. Its members have been asked to submit the challenges they envisage for activities in the far north to the working party on this region being led by the Norwegian Oil and Gas Association. Companies, unions and government will jointly identify where measures are needed.

We are following up worker participation in our audits and status meetings, and also cooperate with the Norwegian Labour Inspection Authority – not least to discuss audit findings.

SANDE: We and the other unions represented in the Norwegian Oil and Gas Association's network for safety and emergency response training (NSOB) are very concerned about developments in this area.

We believe that no tripartite collaboration has occurred here since the Petroleum Industry Centre for Quality Assurance of Competence (PSK) was shut down. After Norwegian Oil and Gas has proposed a halving of refresher courses, we fear that the level of offshore safety will be weakened.

What will you do to ensure that this does not happen, and how will you ensure that tripartite collaboration is revitalised?

PSA: We participate as an observer in the NSOB, and are aware of the work you mention. This is about Norwegian Oil and Gas's own guidelines, and collaboration on developing and possibly amending the requirements is accordingly a matter for the industry and the unions themselves.

We would refer to guideline 002 to the activities regulations. When making such a reference, we are considering whether new versions of the guidelines would provide the desired level of safety.

SANDE: Offshore helicopter transport is an activity with a major accident potential in terms of the possible loss of life. A tripartite arena exists today in the form of the Norwegian Civil Aviation Authority's forum for helicopter safety on the NCS. The PSA has no corresponding arena. Will you take the initiative to establish a tripartite forum for helicopter safety under your auspices?

PSA: Maintaining a high level of helicopter safety in Norway is very important. Efforts being made to establish common European regulations for such aircraft play a key role in that respect, and it is important that we pursue a common Norwegian approach to these issues.

In our view, this can best be achieved through the existing collaboration forum, where the parties in the petroleum and helicopter sectors are represented along with the provider of air safety services. So we do not want to establish a competing arena.

Photo: Gunlaug Leirvik, PSA.

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HSE – Health, safety and the environment
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