

I. C. E. - Simulation Game

Student Information

Bring back this paper to Kiel, please

Information about the
offshore oil & gas industry
in the Arctic

All names, stated facts, proceedings and proposals are **absolutely fictional** even if they resemble actual events or documents to a great deal.

This paper should provide our I.C.E.-students with some background information and give them an idea what our simulation game might be about.

I Introduction to the simulation game

student information

What is a simulation game?

Our plan is to play a special and exciting simulation game throughout the entire Ice-Climate-Education Camp.

A simulation game attempts to replicate various activities in "**real life**" in the form of a game for various purposes: training, analysis, or prediction of events. Ours will deal with the exploitation of the Arctic by the multinational oil and gas industry.

A simulation game is a game that contains a mixture of skill, chance and strategy to simulate an aspect of reality.

A simulation game combines the features of a game (competition, cooperation, rules, participants, roles) with those of a simulation (incorporation of critical features of reality).

Role-play simulation is a learning method that depends on role-playing. Learners take on the role profiles of specific characters or organisations in a contrived or invented setting. So in our simulation game every **I.C.E.-participant** will adopt one of the roles listed below.

Role-play is designed primarily to build **first person experience** in a safe and supportive environment. Role-play is widely acknowledged as a powerful teaching technique. See: Ruohomaki, V. (1995). Viewpoints on Learning and Education with Simulation Games, edited by Jens O.Riis.

II	parties involved	Number of participants
1)	Norwegian oil exploration and drilling industry: StarOil Bergen, Norway	1-2
2)	Russian Oil & Gas Company : YagazNeft Murmansk, Moscow, Russia	1-2
3)	Russian LNG-Tanker owner GazMarinFlot Archangelsk, Russia	1
4)	International Oil-rigg provider TransArctic Ltd Nassau, Bahamas	1-2
5)	Norwegian Search and Rescue operator TromSAR Tromsø, Norway	1
6)	NGO(non government organisation) Green-Arctic-Org London, UK	1
7)	Svalbard Government SysseImann Longyearbyen, Svalbard	1

III Introduction to the actual context of the simulation game

The exploration of the Arctic for petroleum is more technically challenging than for any other environment. However, with increases in technology and continuing high oil prices the region is now receiving the interest of the petroleum industry.

There are 19 geological basins making up the Arctic region. Some of these basins have experienced oil and gas exploration, most notably the Alaska North Slope where oil was first produced in 1968 from Prudhoe Bay. However, only half the basins - such as the Beaufort Sea and the West Barents Sea - have been explored. A 2008 **United States Geological Survey** estimates that areas north of the Arctic Circle have 90 billion barrels of undiscovered, technically recoverable oil (and 44 billion barrels of natural gas liquids) in 25 geologically defined areas thought to have potential for petroleum.

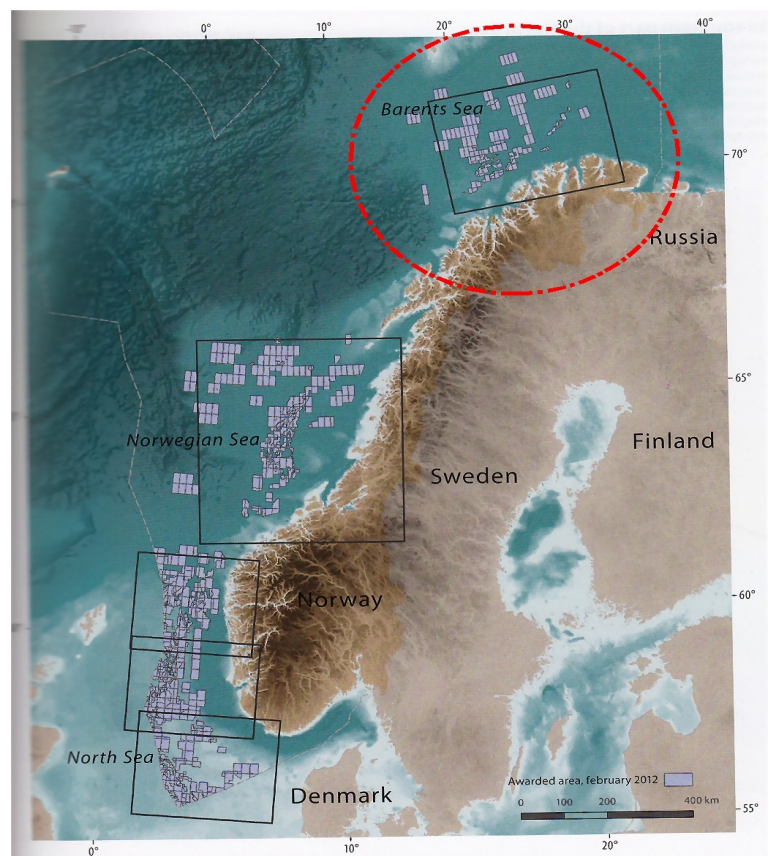
This represents 13% of the undiscovered oil in the world.

Of the estimated totals, more than half of the undiscovered oil resources are estimated to occur in just three geologic provinces - Arctic Alaska, the Amerasia Basin, and the East Greenland Rift Basins.

More than 70% of the mean undiscovered oil resources is estimated to occur in five provinces: Arctic Alaska, Amerasia Basin, East Greenland Rift Basins, East Barents Basins, and West Greenland-East Canada.

It is further estimated that approximately 84% of the undiscovered oil and gas occurs **offshore** .

However, Arctic waters are a dangerous place to look for oil and gas. Apart from enormously expensive operations, climatic conditions still confine exploration activities to short periods during the arctic summer. Floating ice-bergs always threaten to simply knock over drilling platforms like flimsy cardboard constructions. Accidents in these areas,



source :Norwegian Petroleum Directorate

especially oil spills in coastal waters, chemical pollutions of air and sea water are almost impossible to combat.

The world has recently witnessed the gigantic catastrophe of the **Deepwater Horizon** oil spill in the Gulf of Mexico in 2010. It released about 4.9 million barrels (780,000 m³) of crude oil into the sea causing extensive damage to marine and wildlife habitats and to the Gulf's fishing and tourism industries and is still doing this today.

Despite these damages and despite intense and fierce attacks by nature conservation organisations like **Greenpeace** and the **WWF**, Norwegian and Russian oil companies such as StatOil and Gazprom continue to drill for oil and gas in the Barents Sea and the Kara Sea in Arctic waters. Although any oil spill will cause far more and much longer lasting damages in the Arctic, these companies still do not take serious emergency precautions, they do not provide the infrastructure and sufficient funds to compensate eventual damages.

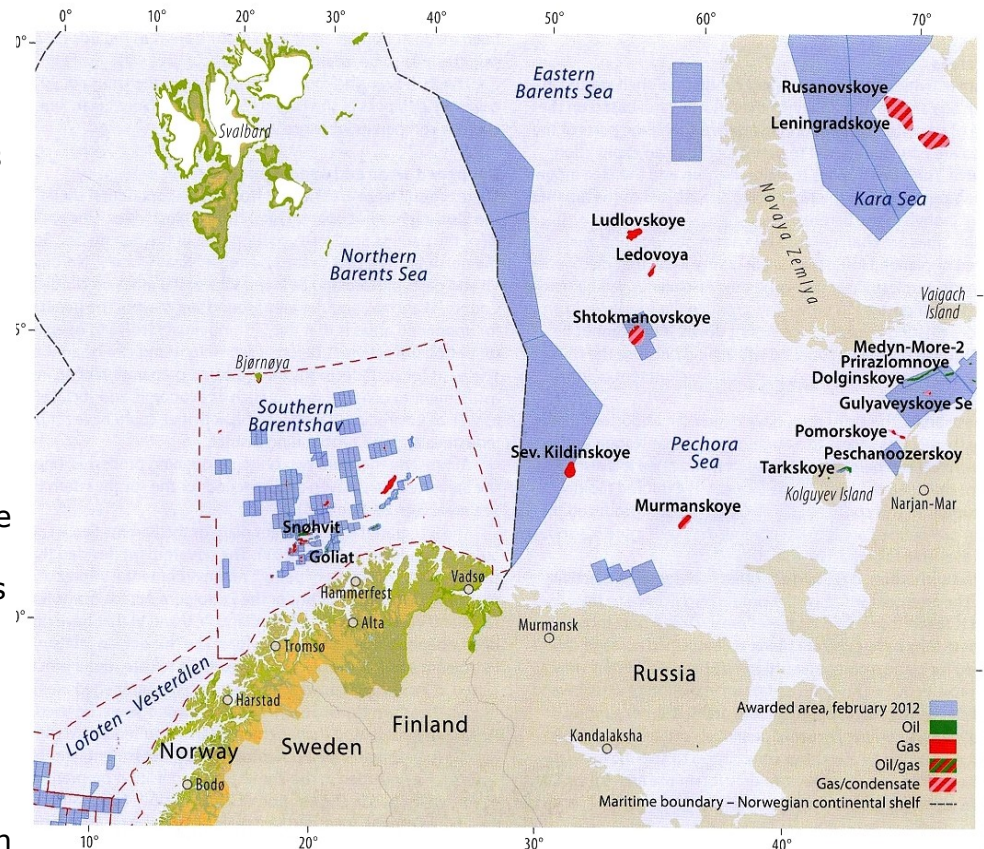


Figure 5.4 Norwegian and Russian part of the Barents Sea per March 2012 (Source: Norwegian Petroleum Directorate/OGRI RAS)

This year the situation seems to be a little less dangerous because of political tensions between Russia and the so-called West. Due to the crisis in the Ukraine, drilling and prospecting activities as well as shipping in the Barents Sea have in fact slowed down quite a bit.

In addition western banks seem to have stopped financing Russian oil and gas exploration. Because of the western embargo Russian companies are partly blocked from exporting oil and gas to the rest of the world and the Norwegian oil industry suffers from a sudden business decline with Russian partner companies. These in turn are desperately in need of modern technology and effective equipment which they normally buy in Norway.

So the parties involved had the idea of organizing some sort of a promotion event on **Svalbard** (Spitzbergen) this year to underline the importance of the energy

supplying industry in the Arctic. They would create and sign an impressive **safety declaration**, the **Coordinated Oil Spill Rescue & Response Declaration (COSPRE 2017)**, meant to make public all those modern safety precautions which have become possible. They would show the world how they intended to protect flora and fauna in the Arctic and generously support indigenous people anyway.



This is a picture of the university

University Centre in Svalbard (UNIS)

The original organizing committee - all leading directors, chairmen and heads of departments of major oil industry companies- also wanted to invite some well known nature protecting organisations (NGOs), whose appraisal of the safety-declaration would be very valuable and which they would - if necessary - try to win over by all sorts of „assistance“ to those NGOs.

However, established organisations such as **Greenpeace**, **Bellona** and the **WWF** remained suspicious and declined to follow the invitation to Longyearbyen. Only the Toronto (Canada) based **Green-Arctic Org** agreed to participate and so did the **Sysselmenn**, the Norwegian governor of Svalbard, who was pleased to become a little bit more known to the world and more influential up in his Arctic archipelago.

This is the background - **the almost real background** - of our simulation game.

The Svalbard Sysselmenn has invited all interested parties to a meeting at the University Centre in Svalbard (UNIS), the world's northernmost institution for higher education and research, located in Longyearbyen, Spitsbergen at 78°N. As of **Saturday June 10th 2017** the meeting will begin. The declaration is expected to be signed by **Thursday June 15th 2017**. The parties involved in our simulation game are near real images of companies and other interest groups fighting and lobbying for their aims and we are sure you will take on their roles and fill them with life and energy.

On the following pages you'll find profiles of the participating delegates. **You will be one of them.** Have a look at these profiles and decide which person you would like to be and what aims and targets you would like to achieve during the conference. The Sysselman or Sysselwoman for example, obviously needs to be a very determined and strong willed person. On the other hand he or she needs to be diplomatic and smart in order to effectively handle all the diverging interests of the other delegates. Maybe you would rather be an internationally well versed oil manager running a powerful global concern providing oil drilling platforms. Have a look at those profiles and make up your mind.

Ulrich Jordan

profiles

Who you are

Norwegian Oil & Gas industry
StarOil



Your name is:

Dr. Svein Laergreid

You are Chair of the board of StarOil since 12 April 2012. The board has overriding responsibility for managing the group and supervising the group's day-to-day management and its operations.

Your name is :

Dr. Marjan Runarsson

Member of the Board of Staroil since 11. September 2009.

Norwegian Oil & Gas industry StarOil

StarOil is a Norwegian multinational oil and gas company headquartered in Tromsø, Norway. The company has about 15,000 employees. It is a major petroleum company with operations in thirty-one countries. By revenue, Staroil is ranked by *Gurdeson Magazine* (2013) as the world's fifteen largest oil and gas company and one of the biggest companies by profit in the world.

As of 2014, the Government of Norway is the largest shareholder in Staroil with 85% of the shares, while the rest is public stock. The ownership interest is managed by the Norwegian Ministry of Petroleum and Energy. The company is headquartered and led from Tromsø, while most of their international operations are currently led from Oslo.

Staroil is a large operator on the Norwegian continental shelf, with 40% of the total production. The fields operated are mainly in Arctic waters north of Norway.

As of June 2017 StarOil is exploiting a new gas and oil field north of Norway. The new Fox-Basin installations has become productive with five subsea wells and StarOil's biggest drilling platform ARCTIC-HORIZON, presently located at 75° 0' 51.51" North / 35° 42' 4.38" East.

In addition to the Norwegian continental shelf, Staroil operates oil and gas fields in Algeria, Angola, Azerbaijan, Brazil, Canada, Libya, Nigeria, and Venezuela.

Your company's primary interests:

The Coordinated Oil-Spill Rescue and Response declaration should be signed by all participating parties by **June 15th 2017** in order to appease the Norwegian public as well as certain NGOs such as Greenpeace, the WWF and others, which have become very critical of StarOil's dangerous operations in the Arctic.

You also want to buy a substantial part of the Russian company YagazNeft in the near future.

profiles

student information

Who you are

Russian oil and gas company YagazNeft



Your name is:

Dr. Alexei Ushakov

You are 72 years old and since 2008 you are Deputy-Chairman of the YagazNeft Board of Directors and Head of the Department for Construction and Investment.

Your name is:

Dr. Elena Pavlova

You are Deputy chairman, Head of the Department for Finance and Economics

The Russian oil and gas company YagazNeft

Your company is the Open Joint Stock Company **YAGAZNEFT**

YagazNeft is the second largest extractor of natural gas in the world and one of the world's largest companies. Its name is a contraction of the Russian words Yamal Gaz Industry. The company's headquarters are in Moscow.

YagazNeft was established in 1990 when the Soviet Ministry of Gas Industry converted to several corporations, retaining most of its assets. Later partly privatised, the Russian government nevertheless holds a majority stake. In 2011, the company produced about 513.2 billion cubic metres (18.12 trillion cubic feet) of natural gas, amounting to more than 17% of worldwide gas production. In addition, YagazNeft produced about 32.3 million tons of crude oil and nearly 12.1 million tons of gas condensate. Yagazneft's activities accounted for 8% of Russia's gross domestic product in 2011.

Yagazneft's major production fields are located around the Gulf of Jennisey in Western Siberia, and the Yamal Peninsula is expected to become the company's main gas producing region in the future. YagazNeft possesses the largest gas transport system in the world, with approximately 158,200 kilometres of gas trunk lines. Major new pipeline projects include North Stream and South Stream. The company has a number of subsidiaries in various industrial sectors, including finance, media and aviation, as well as majority stakes in various companies.

Objectives as regards the signing of *Coordinated Oil-Spill Rescue & Response Declaration* COSPRED 2017:

- YagazNeft wants to export its Liquid Natural Gas (LNG) to more Asian and European countries in order to countermeasure economic sanctions against Russia imposed by the US and the EU because of the Ukrainian crisis.

profiles

Who you are

Russian LNG-Tanker owner
GazMarinFlot



Your name is :

Viktor Georgiyevich Bakarow

You are Chairman of the Board of Directors. You graduated from the M.I. Kalinin Polytechnical Institute in Leningrad and you have been leading GazMarinFlot since 1995.

Your name is:

Dr. Tatjana Ulyanova

Professor of the National Research University Higher School of Economics, Moscow and Member of the Board of Directors.

Russian LNG-Tanker owner GazMarinFlot Archangelsk, Russia

Company Profile **GazMarinFlot**

GazMarinFlot is Russia's second largest shipping company, and one of the global leaders in the maritime transportation of hydrocarbons, as well as the servicing and support of offshore exploration and oil & gas production.

The company's fleet (owned & chartered) focuses on hydrocarbon transportation from regions with challenging icy conditions and includes 64 vessels with a combined deadweight of about 6.6 million tonnes. A third of these vessels have a high ice class.

The fleet comprises: **4 LNG- and petroleum gas carriers; 7 Crude oil carriers of the tanker sizes VLCC, Suezmax, Aframax and Panamax, including shuttle tankers; 6 Product-carriers of the tanker sizes MR, LR I, LR II and Handysize; 2 Ice-breaking supply vessels; 1 Research vessel for offshore geophysical exploration;**

GazMarinFlot operates vessels in the segments that are in highest demand by Russian and international oil & gas companies. The company services large-scale energy projects in Russia and abroad, including Sakhalin-1, Sakhalin-2, Prirazlomnoye.

The company is registered in Archangelsk and has representative offices in Moscow, Novorossiysk, Murmansk, Vladivostok, Yuzhno-Sakhalinsk, London, Limassol, Madrid, Singapore and Dubai.

Your company's primary interests:

GazMarinFlot wants to expand and bring more LNG-tankers into service and you want to build them in Russia and not in South Korea and Japan anymore.

profiles

student information

Who you are

International Oil-rigg provider TransArctic Ltd, Nassau, Bahamas



Your name is:

Larry Stobarter

You are Interim Chief Executive Officer of TransArctic Ltd. You began serving as the company's Interim Chief Executive Officer in February 2014.

Your name is:

Terry Ann McMahan

You are Executive Vice President and Chief Operating Officer of TransArctic Ltd. Prior to this, you served as Vice President and Controller at GlobalSantaFe.

International Oil-rigg provider **TransArctic Ltd**

High-Specification Offshore Drilling

TransArctic Ltd is a leading international provider of offshore contract drilling services for energy companies, owning and operating among the world's most complex fleets with a particular focus on deepwater and harsh-environment Arctic drilling. Our fleet of 28 mobile offshore drilling units includes the world's second largest fleet of high-specification rigs consisting of ultra-deepwater, deepwater and premium jackup rigs. In addition, we have three ultra-deepwater drillships and two high-specification jackups under construction.

TransArctic Ltd helps customers such as StarOil to find and develop oil and natural gas reserves. Building on more than 40 years of experience with the highest specification rigs, our employees are focused on safety and premier offshore drilling performance. Personal safety and employee health is our greatest responsibility, followed by the protection of the Arctic environment and company property. We aim to conduct our operations in an incident-free workplace, constantly and at all times. We will deliver outstanding value to customers, employees and, most of all: to our shareholders.

As of June 2017 TransArctic Ltd is providing StarOil, a major Norwegian oil producing customer with one of the world's biggest drilling platform, the **ARCTIC HORIZON** at Fox-Basin oil-field north of Norway.

Your company's primary interests:

- Our interests are not the same as those of the gas & oil producing industry! We have to protect our advanced technology, our very expensive equipment and last but not least our highly trained drilling engineers and crews. They are the company's brain capital and their safety deserves top level priority! TransArctic Ltd wants to lease more oil-rigs to Staroil and therefore supports COSPRED. If the agreement is reached, it will be positive for the entire gas & oil business in the Arctic.

profiles

student information

Who you are

Non Governmental Organisation

Your name is:

Terry Ayliffsson

You are 31 years old and operations director for GAO activities in the Davis Strait. Before joining GAO you have been working as a free-lance reporter for various environmental organisations and magazines around the world.

GREEN-ARCTIC-ORG
green arctic

Your name is:

Dr. Julia Durham

You are 36 years old and presently a deputy programme director with GAO. You hold a PhD in marine biology from Murdoch University, Perth, Australia.

Green-Arctic-Org policy as regards Arctic oil& gas exploration activities

The impacts of climate change in the Arctic underline the urgency with which all nations must seriously reduce **CO2 emissions**. However, around the world international oil companies are racing to secure their „claims“ to drill for oil that may be found underneath the Arctic ice.

Governments show no or little interest in preventing the devastating climate change by enacting policies to reduce CO2 emissions. Instead they are regarding the destruction of the Arctic ecosystem as an opportunity to pump out yet more climate destroying oil. An obvious concern are **oil spills**, industrial accidents and spills of toxic chemicals.

The effects of oil spills in the Arctic in a high-latitude, cold ocean environment last much longer and are far worse than in other areas. Any oil spill clean-up is never really effective and Arctic conditions will render any clean-up attempt impossible.

Green-Arctic-Org is asking for no less than an international over-arching Arctic multi-lateral agreement or treaty that ensures the highest levels of protection for the Arctic, especially for those areas of the Arctic Ocean that have traditionally been covered by sea-ice.

In the meantime Green-Arctic-Org asks governments and stakeholders to 'freeze their carbon footprint' caused by industrial activities in the Arctic and establish a **moratorium** on further industrial development in regions made accessible by the retreating sea ice.

Your organisations´ primary interests:

Green-Arctic-Org maintains that oil drilling is a very dangerous, high-risk industry. Any oil spill in these Arctic waters would have a catastrophic impact on one of the most sensitive, unique and beautiful landscapes on earth. The risks of accidents are ever present and the oil industry's cleanup and response plans are presently totally inadequate.

profiles

student information

Who you are

TromSAR rescue operator

Your name is:

Morten Karlsbakk

You are the TromSAR Joint Rescue Coordinator Northern Norway. You graduated from the Norwegian Police University College (Norwegian: Politihøgskolen; PHS), Oslo and you hold a Master's degree in police science, criminology, and psychology.

Your name is:

Marit Eriksen

You are the deputy TromSAR Joint Rescue Coordinator Northern Norway. You graduated from the Norwegian Police University College, Bodø, Norway. You received a three-year basic education course (B.A.) in police science and psychology.



TromSAR's relation to Arctic oil and gas exploration activities

The TromSAR Coordination Centre of Northern Norway (Norwegian: TromSAR redningssentralen i Nord-Norge) is a rescue coordination center located in Tromsø which is responsible for coordinating major search and rescue (SAR) operations in Norway north of the 65th parallel north. Its area of operation includes Svalbard, but excludes Jan Mayen. TromSAR has twenty-one employees and six helicopters (AS332 Super Puma) and has at least two rescue controllers at work at any time.

The center is able to call on resources from police districts, land, sea and air ambulance services, fire departments, the Coast Guard, the Royal Norwegian Air Force's 234 Squadron, which operates the Westland Sea King SAR helicopters, the Norwegian Organisation for Sea Rescue and other governmental, commercial and volunteer resources. Communication can be relayed via Telenav Maritime Radio and Arnav's air traffic control.

Your company's primary interests:

For more than twenty years Norway and Russia have cooperated on oil spill response in the Barents Sea. The first joint exercise was held in 1991, and the first agreement and response plan was signed in 1994.

Cooperation between the rescue coordination centers in Tromsø and Murmansk have proved successful during real accidents. Norwegian SAR has saved several Russian sailors in distress. In December 2007 some twenty Russian sailors were saved from a sinking cargo vessel by a TromSAR rescue helicopter. The TromSAR crew was later awarded with the Russian medal for noble deed.

TromSAR wants to increase cooperation with Russian SAR operators and is aiming at a contract with Russian authorities to extend TromSAR activities further into the Bering and the Kara Sea.

profiles

student information

Who you are

You are :

Frederik Eldringsson

You are Governor of Svalbard-Syssemmannen på Svalbard. You are 51 years old. You have been in administrative positions in Oslo and Bergen before going to Longyearbyen in 2007.

You are

Anna Merit Ingerø

You are Governess of Svalbard-Syssemmannen på Svalbard. You studied marine biology and geomatics at UiO the University of Oslo.



Coat of arms of the Governor of Svalbard

Governor of Svalbard- Syssemmannen på Svalbard.

The Governor of Svalbard (Norwegian: **Syssemmannen på Svalbard**) represents the Norwegian government in exercising its sovereignty over the Svalbard archipelago (Spitsbergen). He is both Chief of Police and has the same authority as a County Governor on the mainland.

The office of the Governor of Svalbard has a staff of 37, working for a set number of years in any one of three departments, which are all headed by the governor himself. The position reports to the Norwegian Ministry of Justice, but it maintains all Norwegian interests in the area, including environmental protection, law enforcement, representation, mediation, and civil matters, such as marriage, divorce. An important part of the position is to maintain good working relations with the Russian community of Barentsburg. To this end, the governor's organization consists of:

1) a staff section with Russian interpreters and advisors on legal matters, tourism, etc. **2)** a section for law enforcement, **3)** a section for environmental protection, **4)** an administrative section, including archiving, financial management and IT support.

Your administrative primary interests:

The Governor of Svalbard is the Norwegian government's supreme representative in the archipelago and for this reason **you will always put Norwegian interests first**. You will also try to maintain a very good relationship with the Russian coal-mining community at Barentsburg and Russian administrators in general.

You will open the first COSPRED conference, welcome all participants and explain the conference objectives. You also collect the other participant's proposals and alterations and hand out the agenda for the next meeting.



Bring back this paper to Kiel, please

Who would you like to be ???

Choices of the ICE -2017 participants

Please put in your name twice (first choice & second choice)

- 1) Norwegian oil exploration and drilling industry:
StarOil
Bergen, Norway _____
- 2) Russian Oil & Gas Company :
YagazNeft
Murmansk, Moscow, Russia _____
- 3) Russian LNG-Tanker owner
GazMarinFlot
Archangelsk, Russia _____
- 4) International Oil-rigg provider
TransArctic Ltd
Nassau, Bahamas _____
- 5) Norwegian Search and Rescue operator
TromSAR
Tromsø, Norway _____
- 6) NGO(non government organisation)
Green-Arctic-Org
London, UK _____
- 7) Svalbard Government
Sysselman
Longyearbyen, Svalbard _____

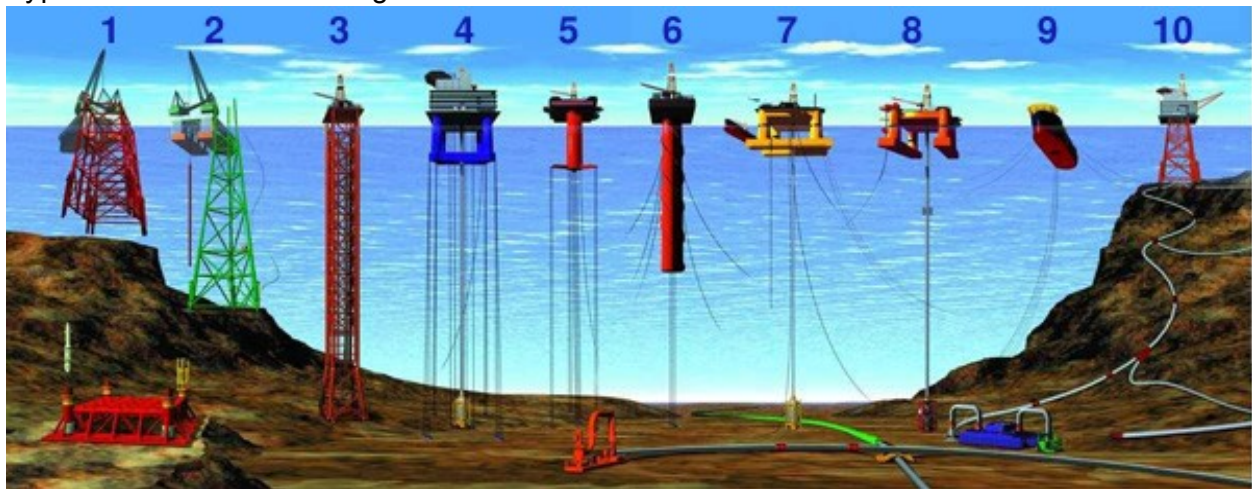
Oil and Gas Exploration:

Oil Rigs An oil platform, offshore platform, or (colloquially) oil rig is a large structure with facilities to drill wells, to extract and process oil and natural gas, or to temporarily store product until it can be brought to shore for refining and marketing. In many cases, the platform contains facilities to house the workforce as well.

Depending on the circumstances, the platform may be fixed to the ocean floor, may consist of an artificial island or may float. Remote subsea wells may also be connected to a platform by flow lines and by umbilical connections. These subsea solutions may consist of one or more subsea wells, or of one or more manifold centres for multiple wells.



Types of offshore oil and gas structures



- 1) & 2)** Conventional fixed platforms (deepest: Shell's Bullwinkle in 1991 at 412 m / 1,353 ft GOM (=GULF OF MEXICO))
- 3)** Compliant tower (deepest: ChevronTexaco's Petronius in 1998 at 534 m / 1,754 ft GOM)
- 4) & 5)** Vertically moored tension leg and mini-tension leg platform (deepest: ConocoPhillips' Magnolia in 2004 1,425 m / 4,674 ft GOM)
- 6)** Spar (deepest: Dominion's Devils Tower in 2004, 1,710 m / 5,610 ft GOM)
- 7) & 8)** Semi-submersibles (deepest: Shell's NaKika in 2003, 1,920 m / 6,300 ft GOM)
- 9)** Floating production, storage, and offloading facility (deepest: 2005, 1,345 m / 4,429 ft Brazil)
- 10)** Sub-sea completion and tie-back to host facility (deepest: Shell's Coulomb tie to NaKika 2004, 2,307 m / 7,570 ft) (Numbered from left to right; all records from 2005 data)