

Northern Exposure

Gazprom and oil exploration in the Russian Arctic

Media briefing, August 2012

Key facts

- In the summer of 2012, Russian energy giant Gazprom will begin drilling operations at the first ever commercial oil production platform installed anywhere inside the Arctic.
- Gazprom is Russia's biggest company, accounting for 10% of national GDP, and is set to play a key role in President Vladimir Putin's aim to make the country a global energy leader.
- Opening up the offshore Arctic is central to Gazprom's future energy strategy. The company openly admits it plans to drill in other Arctic basins and has already built another ice-class oil rig for this purpose.
- Elsewhere in Russia, Gazprom's competitors are lining up multi-billion dollar deals with western oil companies to drill for oil in Arctic waters like the Kara Sea. Ministers have described the project as more complicated than exploring outer space.
- Unlike exploration programmes of companies like Shell and Cairn Energy, Gazprom's giant \$4bn *Prirazlomnaya* platform could supply oil directly to the global market as soon as early 2013.
- The *Prirazlomnaya* has been cobbled together from pieces of decommissioned North Sea rigs and has sat rusting in a Murmansk shipyard for years.
- Gazprom's platform will operate year-round in the remote Pechora Sea, where ice is present for nearly two-thirds of the year and temperatures can drop as low as -50°C.
- The company says it has "sufficient resources" to deal with an oil spill in this treacherous region, but all available information suggests it would be completely unable to respond to even a minor accident.
- The *Prirazlomnaya*'s oil spill response plan is only publicly available as a short summary, but even this document shows that Gazprom will rely on traditional clean-up methods that simply do not work in icy conditions.
- Greenpeace recently discovered that Gazprom's oil spill response plan for the platform has expired. Any drilling before a new plan is agreed with Russian authorities would likely be illegal.
- Additionally, much of the response equipment will be housed 1000km away in Murmansk, which means the company would not be able to mount a serious accident response for days. By this time oil could have beached on nearby nature reserves, and Gazprom admit local wildlife and Indigenous Peoples could be adversely affected.
- The Pechora Sea is surrounded by national parks and wildlife sanctuaries like Nenetskiy and Vaigach that are home to protected and locally endangered species such as the Atlantic walrus.

Introduction

According to the US Geological Survey, the Arctic region may contain up to 90 billion barrels of oil and significant proportions of these reserves are thought to lie in the on- and off-shore areas of Russia.¹ As oil companies are squeezed into developing increasingly marginal sources of hydrocarbons, the far North is emerging as a viable new frontier for the industry: whilst a few wildcat firms like Cairn Energy have started exploratory operations in areas such as Greenland, bigger players are now gearing up for their own drilling programmes in this pristine ecosystem. The recent multi-billion dollar deals between western companies such as Exxon-Mobil,² Statoil³ and Eni⁴ and domestic energy giant Rosneft is proof that the industry is serious about exploiting the Arctic's icy waters.

The Arctic is an area of huge strategic importance for Russia. As with other Arctic states the country spends significant sums on maintaining a military capability in the frozen North, including army brigades,⁵ new ice-class ships,⁶ new frontier posts along the Northern Sea Route⁷ and it sees industrial development here as inevitable. Already one of the world's leading oil producers,⁸ according to President Putin his "long-term goal is to secure Russia's leadership on the global energy markets."⁹ Development of the country's vast continental shelf is crucial to this and Putin recently said that in the coming years new investment in oil extraction on Russia's continental shelf could top \$500bn,¹⁰ even though Russian experts have said drilling in the Arctic will be more difficult than exploring outer space.¹¹

According to domestic legislation, only state-owned companies with more than five years' experience of operating in the Russian offshore can own licenses to drill for oil.¹² This means that there are currently only two players: Gazprom and Rosneft. Whilst the latter has spent put significant effort in to creating tie-ups with western oil companies to begin the process of exploration in areas such as the Kara Sea, it is Gazprom that is closest to full-scale operations in the Arctic.¹³

In 2002 Gazprom formed a subsidiary, Gazprom Neft Shelf,¹⁴ to develop offshore oil and gas reserves in the Arctic.¹⁵ While it freely admits that it is "looking forward to exploring other fields of the Arctic shelf,"¹⁶ the company first plans to develop the Prirazlomnoye oil field in the Pechora Sea,¹⁷ one of the first offshore sunk well anywhere in the Russian Arctic.¹⁸ The field, around 60km from the coast of the Nenets Autonomous Okrug Province, lies in water 20m deep and is thought to hold over 500 million barrels of oil.¹⁹ Such a size makes it "of crucial significance for Gazprom Group's oil business strategy."²⁰ It expects to extract around 20,000m³ of oil every day from the field at peak production²¹ and total cost of development is estimated to be \$4bn.²²

Gazprom's plans

Gazprom is the biggest gas supplier in the world, accounting for 15% of global supply,²³ and is today Russia's largest company.²⁴ Founded in 1989²⁵ the company is almost totally state-owned and provides around 10% of Russia's entire gross domestic product.²⁶ Historically, Gazprom's focus has been on finding and developing onshore gas reserves in Russia,²⁷ but it is heavily expanding its oil operations: it has nearly 6,000 production wells and plans to produce 650 million barrels of oil every year by 2020.²⁸

In order to provide this level of production, Gazprom is, like many other oil companies, looking towards drilling in increasingly remote, technically challenging and sensitive environments such as the Arctic, and the Prirazlomnoye field in the Pechora Sea will be the company's first foray into offshore oil drilling in the northern Russian continental shelf.²⁹ It has purpose built a giant

oil platform, the *Prirazlomnaya*, to drill in these freezing waters and, uniquely, this vessel will be the first off-shore commercial production facility anywhere in the Arctic. The *Prirazlomnaya* will perform well drilling, oil production, storage and offloading³⁰ and over its 25-year lifetime will drill 40 wells.³¹ Production is planned to be around 43 million barrels per year.³² Gazprom originally planned to start producing oil from there in 2010,³³ but because of the enormous technical challenges posed by drilling in the Far North the project has been beset by delays.³⁴ The first exploratory drilling was slated to start in March 2012, but this has been pushed back until the summer, with commercial operations perhaps following some time in 2013.³⁵

But the *Prirazlomnaya* platform is really only the start of Gazprom's Arctic ambitions. The energy giant is already developing further ice-class drilling rigs to allow it to venture into more remote areas of the Russian far north. The first of these, the jack-up *Arkticheskaya*, is being built in Murmansk and will allow Gazprom to operate in deeper waters than the *Prirazlomnaya*.³⁶ Yet even this vessel has been plagued by construction delays: work began on it in 1995 but financial constraints soon meant the project was mothballed for nearly a decade.³⁷

The *Prirazlomnaya*

The vast *Prirazlomnaya* platform is perhaps the ultimate personification of the creeping industrialisation of the fragile Arctic. It is 126m square, weighs 117,000 tonnes (without ballast), has a gas flare 141m high³⁸ and can provide year-round accommodation for 200 workers.³⁹ The rig is fixed in place by a steel caisson containing 100,000 tonnes of rubble and a further 122,000 tonnes of concrete underneath the rig superstructure.⁴⁰

Gazprom has a small fleet of support vessels operating alongside the *Prirazlomnaya*,⁴¹ including the ice-breakers *Vladislav Strizhov*⁴² and *Yuri Topchev*,⁴³ and the tankers *Mikhail Ulyanov*⁴⁴ and *Kirill Lavrov*⁴⁵ and the floating storage vessel *Belokamenka* based in Murmansk.⁴⁶ It will use tankers to offload crude oil from the *Prirazlomnaya* to the *Belokamenka* and then ship it to a floating storage facility before transshipment to Rotterdam or a possible refinery it may build in Teriberka near Murmansk.⁴⁷

Gazprom claims the *Prirazlomnaya* platform can withstand harsh Polar conditions: the drill site is only ice free 110 days every year and with temperatures of -50°C not uncommon.⁴⁸ In truth, the *Prirazlomnaya* is about as far from the idea of an ultra-modern drilling unit as it is possible to imagine. It has been cobbled together from rusting pieces of old rigs and dragged, with construction uncompleted, into position in the Pechora Sea by tugs. This means Gazprom is using out of date equipment and an unfinished platform to drill in one of the most extreme environments anywhere on the planet.

Work on the construction project started 15 years ago⁴⁹ and the topside of the *Prirazlomnaya* is made from the remains of the *Hutton* platform,⁵⁰ which was built in 1984 to drill the Hutton Field in the East Shetland Basin of the North Sea. Decommissioned in 2002, the rig was subsequently purchased by Gazprom and chopped in half, with the topside being towed to Murmansk.⁵¹ Construction of the new platform began at the Sevmash yard in the town of Severodvinsk, near Arkhangelsk in 1995, but an almost constant stream of delays due to workforce problems⁵² meant the launch of the \$1bn project⁵³ fell way behind schedule: construction was suspended and its shell stood rusting at Severodvinsk for a number of years.⁵⁴

In 2011 the platform was "ready" for towing to the drill site, even though the company who carried out the construction work admitted the rig was not fully completed.⁵⁵ Final work will apparently be completed at sea, but even now it is facing problems: just a few weeks after being positioned on site, the *Prirazlomnaya's* rig's safety ladder was torn off in summer storm.⁵⁶

Because of these problems, industry sources are now suggesting that the platform may not meet Russian offshore operating standards,⁵⁷ but Gazprom is so desperate to see a return on its significant investment that it may try to push ahead with drilling regardless.

Arctic Oil Spill response

The near-impossibility of cleaning up an Arctic oil spill is well-documented. According to a senior official at a Canadian firm that specialises in oil spill response, “there is really no solution or method today that we’re aware of that can actually recover [spilt] oil from the Arctic.”⁵⁸ The Pew Environment Group recently examined oil spill response plans for operations in the Arctic⁵⁹ and warned that the oil industry is “not prepared for the Arctic, the spill plans are thoroughly inadequate,”⁶⁰ adding that Arctic spill plans “underestimate the probability and consequence of catastrophic blowouts.”⁶¹ Analysis for WWF found that industry proposals for assessing the risks of a spill in the Arctic were inaccurate, describing it as “imagineering, not engineering.”⁶² At the same time, the US Geological Survey concluded that “there is no comprehensive method for clean-up of spilled oil in sea ice” and that recovery systems normally used to collect oil faced “severe limitations” due to extreme conditions in the Arctic.⁶³

Given the dilapidated state of the *Prirazlomnaya* it is reasonable to question the efficacy of Gazprom’s plan to deal with an Arctic oil spill. The drill site lies in a part of the Pechora Sea notorious for its winter weather: it is covered in thick ice for almost two-thirds of the year,^{64, 65} and temperatures can drop as low as -50°C.⁶⁶ Despite this, Gazprom claims it has “estimated all foreseen hazards” and “purchased special equipment able to eliminate possible oil spills in Arctic conditions as well as to collect oil in ice conditions.”⁶⁷

Gazprom’s oil spill response plan is almost impossible to find. A summary is available in Russian on the internet,⁶⁸ whilst the full version can only be viewed in the company’s offices under very strict restrictions. However, even the summary plan makes clear that Gazprom would be completely unable to deal with an accident in the far north. The company claims it “pays great attention to preventive environmental protection measures,”⁶⁹ but according official plans its worst-case scenario⁷⁰ is only for an oil spill of around 65,000 barrels. The *Deepwater Horizon* disaster spewed nearly 5 million barrels into the Gulf of Mexico,⁷¹ whilst the *Prirazlomnaya* itself can store up to 650,000 barrels of oil.⁷²

Recently, a government document released to Greenpeace by the Russian Emergencies Ministry has confirmed that Gazprom does not currently have a valid oil spill response plan for the *Prirazlomnaya*.⁷³ The plan is a legally binding document that must be approved by Russian authorities before any drilling operations can commence, but Gazprom’s old spill plan expired in July 2012. Any drilling carried out by the *Prirazlomnaya* will likely be illegal under Russian law until a new plan is submitted and approved by the government.

Despite this, Gazprom says it “has sufficient resources to collect oil” spilled during an accident from its support vessels stationed nearby and with on-shore logistical support from nearby Varandey. Yet there is only capacity to store 6,000 barrels of spilled oil on the platform while the summary plan, which is almost entirely devoid of information about how the company would overcome the challenges of thick ice, freezing temperatures, gale force winds and months of total darkness, states that clean-up operation would be carried out by traditional technology such as brush skimmers that companies like Shell admit will not work effectively in ice.⁷⁴ Booms would be based “2-3 days” away in Murmansk and could only be “used in ice-free periods.” It is unsurprising that Gazprom is not able to guarantee it would be able to clean up all of a spill.

The *Prirazlomnaya* drill site is incredibly remote and there is almost no approved infrastructure to supply the logistical support needed to undertake a major oil spill response operation. For example, the nearest federal rescue station is located in Murmansk – about 1000 km from the platform.

More generally, Russia's track record of oil spills is appalling. It is estimated that 32 million barrels of oil leak from cracked wellheads, pipes and equipment throughout Russia each year.⁷⁵ According official data over 3 million barrels of leaking oil seeps into Arctic Ocean from the polluted rivers of northern Russia.⁷⁶ That is the same amount of oil spilled during *Deepwater Horizon* every 18 months.

Oil Spill impacts

The Prirazlomnoye oil field is surrounded by national parks and wildlife sanctuaries like Nenetskiy and Vaigach that are home to protected and endangered species such as the Atlantic walrus. Gazprom's summary oil spill response plan suggests that walrus and bird habitats would likely be impacted from leaking oil where an accident to occur on the *Prirazlomnaya*, whilst Indigenous Peoples who use the Pechora Sea for fishing would also be affected.

Incredibly, under Russian law the Prirazlomnaya is only covered for environmental damage up to the sum of around \$230,000.⁷⁷ Post-*Deepwater Horizon*, BP faced a bill of nearly \$40bn⁷⁸ and according to a verbal confirmation from Gazprom at a meeting with NGOs in 2011 it does not have enough financial resources to ensure a reasonable level of oil spill mitigation capability on the *Prirazlomnaya*.

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