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Approaches of foreign countries to legal regulation of the oil and gas development on the Arctic continental shelf *

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Abstract. The article studies the legal approaches of the USA, Canada, Greenland, Norway and Iceland towards regulation of the oil and gas drilling on the Arctic shelf. Similarities and differences in the legislation are highlighted based on analyzing the legal provisions of each state. The criteria for the comparative analysis are the extent of legislation development, flexibility of provisions, division of regulative and control functions among the state bodies, etc. The author concludes that while legislation of Iceland and Greenland is only on its way to a final drafting and mainly refers to international standards, Norway, on the contrary, is an example of a state with well-developed legislation enabling it to be one of the leaders in oil and gas industry. Though the USA and Canada have elaborated system of regulation of oil and gas companies' activities on the Arctic shelf. Both are notable for strict provisions that contributed to the outflow of private operators from the Arctic shelf.

Keywords: *the Arctic, oil and gas activity, national legislation, the USA, Canada, Norway, Iceland, Greenland.*

Introduction

Reducing the ice cover of the Arctic opens significant prospects for the economic expansion of the coastal states in this region. This concerns the extraction of marine bioresources, the development of transport and, undoubtedly, the development of oil and gas fields. The development of the North deposits is not only related to the work in severe climatic conditions, which is a serious challenge for companies, but also with the harming the vulnerable environment and the traditional way of life of the indigenous people.

As it is shown by the resolutions of the Arctic forums at the highest level, the authorities of the coastal states are seeking to find a balance between the economic advantages, given by the access to the Arctic Ocean, and the need to minimize the negative effects of anthropogenic impact on the Arctic ecosystems, i.e. to achieve sustainable economic development of the region. This goal, first, requires a well-developed regulatory framework at the national and international levels. Thus, let us move to the considerations on the foreign legislation of the states with an access to the Arctic waters. The development of oil and gas resources in the Arctic, as well as the state bodies for the supervision of this activity is in the focus.

The USA: the territory of imperative norms

The United States is one of the leaders in the oil extraction on the Arctic shelf. The most

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developed oil and gas basin of the Arctic is the northern slope of Alaska, the only Arctic state in the country. The Arctic hydrocarbon shelf reserves in the USA are in the bowels of two seas: the Beaufort Sea and the Chukchi Sea. In 1968, the largest oil field in North America, Prudhoe Bay, was discovered off the coast of Alaska. Currently, the Arctic continental shelf of the United States is producing oil in the Beaufort Sea. All offshore oil projects are located no more than 10 miles from the coast [1, Panichkin I.V., p. 167].

In connection with the decline in oil prices and the lack of positive results of offshore drilling in 2015—2016, some companies, working on the shelf of Alaska, announced the suspension of further activities in this region¹². Much in view of this fact, in December 2016, the US president made a statement, supported by the Canadian authorities, and it became a big surprise for the public of both countries. According to the document¹³, the United States decided to close the possibility of obtaining licenses for drilling in significant water areas of the Chukchi Sea and the Beaufort Sea. Making this decision, Barack Obama took advantage of the law on the outer continental shelf of 1953, giving the US President the authority to withdraw a region from the general shelf fund to be distributed. At the same time, the ban did not concern the existing oil production projects in the Beaufort Sea (Fig. 1: marked brown), and the water areas under the jurisdiction of the state of Alaska.

Since the offshore exploration is potentially associated with a risk of environmental damage, it is under the strict control of the US government. However, the legal norms relating to work on the shelf of Alaska generally do not differ from the national legislation on oil and gas activity.

The borders of the Arctic territories and waters are defined by the US Arctic Research and Policy Act of 1984.¹⁴ The US offshore oil and gas fields and reserves are owned by the state. According to the US Law on the outer continental shelf lands of 1953¹⁵, the coastal 3-mile zone of the Arctic shelf is under the jurisdiction of the State of Alaska, but the outer Arctic continental shelf (out of the waters of the State) is under federal jurisdiction. The same law gives the US Department of Interior¹⁶ the functions of general oversight of activities on the outer shelf and powers to control the necessary legislative framework in this field with a view to ensuring environmental protection and industrial safety.

¹² Shell abandons Alaska Arctic drilling. URL: <https://www.theguardian.com/business/2015/sep/28/shell-ceases-alaska-arctic-drilling-exploratory-well-oil-gas-disappoints> (Accessed: 20 February 2018).

¹³ United States-Canada Joint Arctic Leaders' Statement. URL: <https://obamawhitehouse.archives.gov/the-press-office/2016/12/20/united-states-canada-joint-arctic-leaders-statement> (Accessed 20 February 2018).

¹⁴ Arctic Research and Policy Act of 1984. URL: http://www.nsf.gov/geo/opp/arctic/iarpc/arc_res_pol_act.jsp (Accessed: 20 February 2018).

¹⁵ 43 U.S. Code Subchapter III — Outer Continental Shelf Lands. URL: <https://www.law.cornell.edu/uscode/text/43/chapter-29/subchapter-III> (Accessed: 20 February 2018).

¹⁶ Literal translation of the name of the *Department of Interior* (eng.) as the “Ministry of interior” (rus.) can lead to confusion since, in the United States, the functions of the traditional Russian Ministry of Interior are performed by the Ministry of Justice and the Ministry of National Defence. – authour’s note

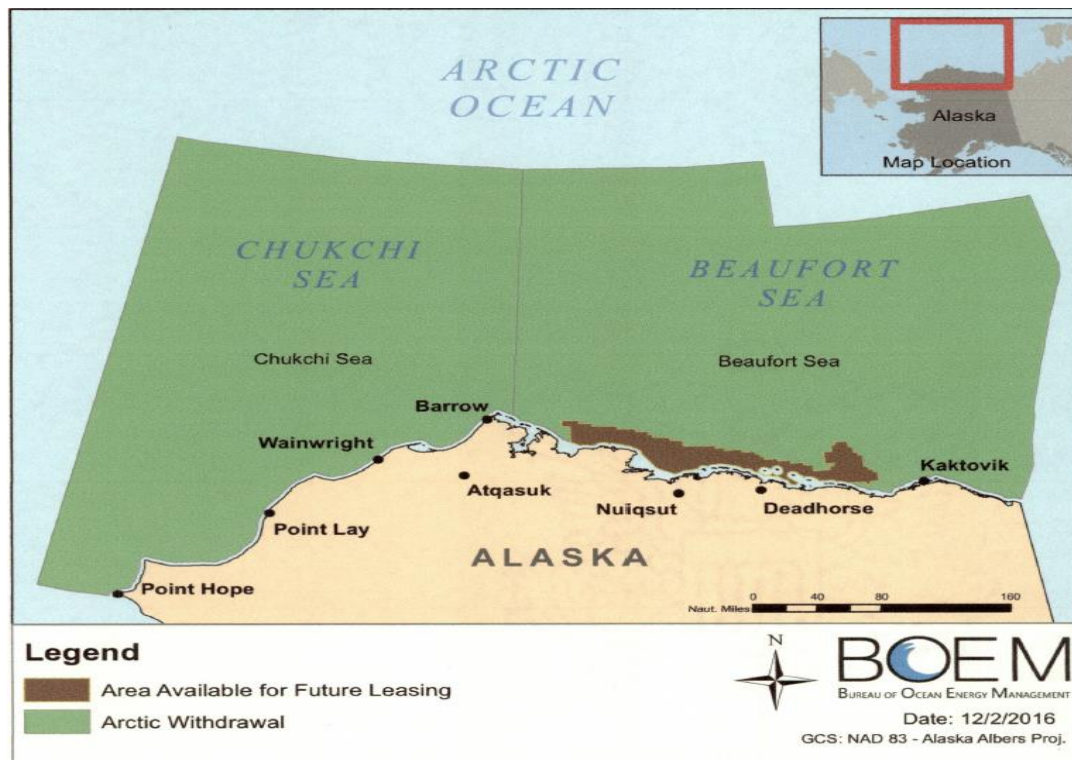


Fig. 1. The US water areas where the development of resources is forbidden (green fill)

In 2010, after the accident on the *Deepwater Horizon* oil platform in the Gulf of Mexico, the state managing offshore development had undergone structural changes. The Minerals Management Service, part of the Department of Natural Resources, was renamed and divided into three independent bodies: The Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BOSEE) and the Office of Natural Resources Revenue — (ONRR).

The goal of the reform was to prevent the concentration of resource management, monitoring compliance with safety and environmental standards and revenue collection [2, Baker B., Sidortsov R., p. 17]. According to the authorities, this should help to reduce the risk of corruption in the distribution of licenses and to verify companies' compliance of with environmental requirements, which ultimately will help to avoid accidents such as the *Deepwater Horizon* incident.

The control of the activities on the inland continental shelf within three miles off the coast is the duty of the state bodies of Alaska: the Alaska Oil and Gas Conservation Commission, the Alaska Department of Environmental Conservation, the Alaska Department of Fish and Game and others.

The allocation process of shelf areas among companies intending to conduct exploration begins with the development of a five-year program by the US Department of Natural Resources that defines specific shelf areas to be distributed (the National Outer Continental Shelf Oil and Gas Leasing Program), as well as the auction schedule. The program can be reviewed once a year. When approving the program, the needs of the energy sector and the results of compulsory environmental impact assessment are considered. After the approval of the five-year program, BOEM distributes the licenses through an auction: the winner is the participant who offers the highest price for the plot. The lease agreement is for 10 years, but in case of receiving an industrial inflow

and the need for further exploitation of the field this period can be extended [3, Kaznacheev P.F., Bazaleva R.V., p. 113].

Before drilling on the Arctic shelf, companies approve their exploration plan at BOEM. The document should contain the schedule of the proposed works, the description of the equipment, the location of the wells and other information¹⁷.

In addition, the license holder is required to obtain a special permit from the US Environmental Protection Agency, demonstrating the safety of the equipment used and providing developed measures to reduce oil leakage and an emergency response plan. When working on the shelf, companies must comply with the environmental requirements contained in the US laws: on preventing water and air pollution, on coastal zone management, and others.

In April and July 2016, new safety rules on drilling on the continental shelf were adopted in the United States. They tightened the requirements for the development and operation of equipment used in the development of oil and gas fields. New standards of equipment used to control wells were introduced, and for the first time — the requirement to monitor certain types of drilling operations in real time mode appeared¹⁸.

In general, the admission of oil and gas companies to the Arctic continental shelf in the United States is characterized by a high level of environmental standards and safety requirements. Unlike the other Arctic countries, where the state provides companies with certain flexibility in choosing the means to achieve the statutory tasks, the US laws contain many imperative norms that prescribe specific technical and procedural requirements [4, Dagg J., Holroyd P., p. 30]. After the accident on the oil platform in the Gulf of Mexico, the standards were tightened, and the state functions for protecting the environment, managing licensing processes and collecting oil revenues on the shelf are distributed among different bodies.

Since the beginning of the D. Trump's presidency in the United States, a radical review of state policy in the oil and gas field has been taking place. In January, the Department of Natural Resources submitted a draft new five-year program for the allocation of shelf areas for 2019–2024 and it meant that 90% of the US continental shelf would be under federal jurisdiction¹⁹. This is an unprecedented indicator in the country's history. If approved, the new program would abolish President Obama's decree 2016 on the prohibition of the distribution of most of the shelf, including the Arctic one. This step of the Trump administration met with fierce protests from both environmentalists and opposition-minded authorities. The governors of most states, affected by the

¹⁷ OIL AND GAS. Bureau of Land Management, Department of the Interior. URL: <https://www.blm.gov/programs/energy-and-minerals/oil-and-gas> (Accessed: 20 February 2018).

¹⁸ Vlasti SShA utverdili okonchatelnye pravila provedeniia burovykh rabot na shelfe Arktiki. [The US authorities have approved the final rules for drilling operations on the Arctic shelf]. URL: <https://neftegaz.ru/news/view/150941-Vlasti-SShA-utverdili-okonchatelnye-pravila-provedeniya-burovyh-rabot-na-shelfe-Arktiki> (Accessed: 20 February 2018). [In Russian]

¹⁹ Trump administration aims to open nearly all U.S. offshore to oil drilling. URL: <https://www.reuters.com/article/us-usa-drilling-offshore/trump-administration-aims-to-open-nearly-all-u-s-offshore-to-oil-drilling-idUSKBN1ET1OW> (Accessed: 20 February 2018).

decree of the Department of Natural Resources, stated that drilling offshore could undermine the economic balance of coastal regions, engaged in fisheries and tourism. It is noteworthy that among the few governors who supported the new course of Trump, was the head of Alaska²⁰.

Canada: the priority of environmental security

Among the main directions of Canada's strategy in the Arctic, outlined in the "Canada's Northern Strategy. Our North, Our Heritage, Our Future", 2009, the development of oil and gas fields and diamond mining were named as the main sources of welfare in the short term²¹. Along with oil and gas, in the coastal zone, Canada owns significant reserves of methane, diamond, copper, zinc, mercury, gold, and rare earth metals hydrate.

At the same time, Canada is cautiously approaching the development of the shelf's mineral resources, making the protection of the vulnerable northern environment the priority [5, Konyshov V.N., Sergunin A.A., p. 76]. In 1970, e.g., the Canadian government adopted an act on the prevention of the Arctic water pollution, in which the state reserves the right to control all vessels entering the ice-covered areas of the Northwest Passage (NWP), along the Canadian coast, to protect the environment. At the negotiations on the adoption of the UN Convention on the Law of the Sea 1982, the Canadian delegation was one of the initiators of the adoption of the Art. 234, which provides the coastal state with the special rights to protect the environment in its EEZ in ice-covered waters. For the same reason, Canada took an active part in the development of the Polar Code, which came into force on January 1, 2017, and regulates the safety of vessels and pollution prevention in polar waters.

The focus of the Canadian authorities on the Arctic environment is due to the existence of legislative requirements for companies developing oil and gas deposits on the Canadian shelf. The rules for obtaining licenses for exploration of hydrocarbons in the Arctic, like in the US, were tightened in 2010 after the incident with *Deepwater Horizon*. Such measures are also dictated by the government's declared concern for the rights and needs of the people living on the territories adjacent to the Arctic shelf. According to the National Energy Council of Canada, 70% of food for this people is produced through subsistence farming on land and fishing at sea²².

Responsibility for the regulation of the Canadian shelf development is divided between the two main state bodies. The issuance of licenses for the development of oil and gas resources is the responsibility of the Ministry of Aboriginal Affairs and Northern Development. The Ministry is also engaged in distribution of financial revenues from offshore development, and the solution of a question on expediency of allocation of a fair share of Canadian companies in issuing the licenses. The National Energy Council of Canada is the body responsible for monitoring the company's com-

²⁰ Congress and Governors Resist Offshore Oil Drilling. URL: <http://www.eesi.org/articles/view/congress-and-governors-resist-offshore-oil-drilling> (Accessed: 20 February 2018).

²¹ Canada's Northern Strategy: Our North, Our Heritage, Our Future. URL: <http://www.northernstrategy.gc.ca/cns/cns-eng.asp> (Accessed: 20 February 2018).

²² Review of offshore drilling in the Canadian Arctic. URL: <https://www.neb-one.gc.ca/nrth/rctc/fshdrllngrvw/2011fnlprtr/index-eng.html> (Accessed: 20 February 2018).

pliance with environmental and safety requirements²³. Thus, in Canada, like in the United States and in contrast to, for example, Greenland and Iceland, financial and legal regulation (licensing and revenue sharing) and supervision of environmental and safety regulations are divided between two independent entities.

The licensing process is governed by the hydrocarbon act of Canada²⁴. The exploration license is issued for up to 9 years and grants companies the exclusive right to conduct exploration and offshore drilling for exploration purposes. The validity of the mining license should not exceed 25 years.

Once the company has obtained a license from the Ministry of Aboriginal Affairs and Northern Development, it must apply to the NEB for a special permit for work on the Arctic shelf. The permit is issued after verification of the company's plans compliance with the requirements of environmental protection, industrial safety and subsoil protection. These requirements are in the laws of Canada on the operation of oil and gas fields^{25, 26} and in a great amount of sub-laws.

The company - operator is also obliged to submit a plan for emergency response and a description of the administrative management system to the NEB for approval. In addition, the company's plans are subject to environmental assessment by various environmental impact monitoring committees. These environmental authorities have the right to make recommendations on measures to mitigate the possible negative impact of companies' activities on the environment.

The intensification of work on the Arctic shelf of Canada in the past was largely due to the subsidies and grants provided by the authorities to oil companies, operating in the Beaufort Sea. However, the incentives were repealed in the mid-1980s, which together with the decline in the world oil prices led to a complete cessation of drilling operations in the Beaufort Sea in 1989 [1, Panichkin I.V., p. 165]. Environmental-oriented resource exploration and development regulations do not facilitate the return of oil and gas companies to Canada. In June 2016 *Shell* returned its licenses in the Canadian part of the Beaufort Sea. It happened because of the Canada's government refusal to mitigate legal requirements for drilling in the Arctic.

According to official website of the National Energy Council of Canada, now there are no applications for exploration permits in the Arctic²⁷. Probably, this factor became decisive in the decision of the Canadian Prime Minister to join the request of the US President on the closure of Arctic waters for exploration and production of petroleum at the end of 2016 and to announce the intention to do the same in Canadian waters soon. The intention to ban offshore drilling also

²³ Fact Sheet: Management of Oil and Gas Resources in the Canadian Arctic Offshore. URL: <https://www.neb-one.gc.ca/nrth/pblctn/mngmntlgsrscrcctfs-eng.html> (Accessed: 21 February 2018).

²⁴ Canada Petroleum Resources Act. URL: <http://laws-lois.justice.gc.ca/eng/acts/C-8.5/index.html> (Accessed: 21 February 2018).

²⁵ Canada Oil and Gas Operations Act. URL: <http://laws-lois.justice.gc.ca/eng/acts/O-7/page-1.html> (Accessed: 21 February 2018).

²⁶ Canada Oil and Gas Drilling and Production Regulations. URL: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2009-315> (Accessed: 21 February 2018).

²⁷ Review of offshore drilling in the Canadian Arctic. URL: <https://www.neb-one.gc.ca/nrth/rctcffshrdllngrvw/2011fnlprtr/index-eng.html> (Accessed: 21 February 2018).

means that next five years, the Canadian authorities do not expect serious activity from oil and gas companies on the shelf. By the way, this was the reason for the sarcastic comments of Canadian experts: “it is easy to ban drilling on the Arctic shelf, which currently does not exist”, while this step will add political bonuses for demonstrating concern for the environment²⁸.

Thus, the Canadian legislation on regulation of oil and gas activity on the Arctic shelf and the structure and level of requirements to companies has much in common with the US approach in this matter. Minor differences boil down to the fact that Canada has a less extensive system of regulatory legal acts and regulatory agents of the state departments. As in the United States, the functions of oversight of operators’ requirements to ensure environmental and industrial safety, issuing licenses and collecting revenues from the activities of companies are divided between several authorities. The proximity of the two systems is evidenced by the joint decision of the two States to close the Arctic areas for exploration and production of oil and gas. High environmental standards and stricter safety requirements could become one of the reasons why the oil companies reduced interest in the shelf and froze the resource extraction projects in the Arctic waters of Canada.

Iceland: on its way to legal foundations

Iceland lies South of the Arctic Circle, and the state's access to the Arctic Ocean is blocked by exclusive economic zones and the continental shelf of Denmark (Greenland) and Norway. But since the country is near the Arctic waters, it is one of the eight members of the Arctic Council.

Due to the geographical proximity to the Arctic Ocean, Iceland faces almost the same climatic difficulties in the development of the shelf resources as the States of the Arctic “five”. There are also specific challenges. Oil and gas reserves on the Icelandic shelf are located at great depths, and the surface above the sea is often covered with thick fog²⁹. On the other hand, in this region, there is no typical Arctic problem of ice, due to the action of the warm Gulf Stream.

The exploration and production of hydrocarbons on the shelf is not as acute for Iceland as for other Arctic States. Iceland was one of the first European countries to account for almost all the electricity consumed by renewable energy. According to the International Energy Agency (IEA), the share of alternative energy in the energy balance of the state is almost 100%, or 99.99%. The main source of energy is hydroelectric power plants, which account for 71% of the total energy produced. Next – geothermal sources with a share in the total balance of 28%. Much smaller volumes of wind power are used, but the share of oil and coal sources of energy in the country is very

²⁸ Canada, U.S. to ban offshore oil and gas licences in Arctic waters. URL: <https://www.ctvnews.ca/canada/canada-u-s-to-ban-offshore-oil-and-gas-licences-in-arctic-waters-1.3211436> (Accessed: 21 February 2018).

²⁹ Iceland, like all Arctic nations, is Drilling for Oil. URL: <https://www.americansecurityproject.org/iceland-like-all-arctic-nations-is-drilling-for-oil> (Accessed: 21 February 2018).

small — less than 0.01%³⁰. Reliance on renewable energy is laid down in the strategy of sustainable development of the state.

Nevertheless, the transport sector of the Icelandic economy remains dependent on oil imports. Thus, according to the International Energy Agency, in 2014, Iceland imported more than half a million tons of petroleum products for home use³¹.

To reduce the country's dependence on oil supplies in 2009, the government of Iceland announced the opening of its continental shelf for the exploitation of hydrocarbons [6, Erlendsson G., p. 57]. In 2013, it was decided to start oil production at the seabed in the Dreki area on the Jan Mayen ridge. At once two licenses for development of fields were received by the *Petoro Iceland* as a company, subsidiary of the *Norwegian Petoro* which is in state ownership. Other license holders were Chinese *CNOOC* and British *Ithaca Energy*³².

Iceland has The Territorial sea, Exclusive Economic Zone and Continental Shelf Act of 1979. This act was drawn up based on international law in force at that time. The 1979 law did not regulate specific issues of developing oil and gas fields on the shelf. The government of Iceland adopted the detailing legal acts after requests of the oil companies to begin development of a legal framework on drilling on the continental shelf [6 Erlendsson G., p. 59]. Among them we should mention: the law on the Icelandic state ownership of resources on the shelf, 1990; the law on supervision over the use of reserves of mineral resources, 1998 and a law on the prospecting, exploration and production of hydrocarbons, 2001. These acts were repeatedly amended. In addition, Icelandic executive bodies issued some sub-laws on the development of offshore resources, it's the environmental aspects, production safety standards, occupational safety, etc.

In addition to domestic legislation, international agreements should also be mentioned. In 1981 and 2008, Iceland and Norway signed treaties on the delimitation of the Jan Mayen continental shelf and on the establishment of a regime for the transboundary deposits development. The Contracting States have a mutual right to a 25% stake in the mining activities proposed by the opposing party³³. This contract is also aimed at attracting Norwegian companies that have rich experience and modern technologies for shelf oil extracting.

Iceland is part of the European Economic Area, it has also implemented the EU directives on granting licenses for prospecting, exploration and production of hydrocarbons (e.g., Directive 94/22 / EC).

³⁰ Islandii teper neft i gaz ne nuzhny. [Iceland now does not need oil and gas] URL: <http://pro-arctic.ru/10/12/2016/news/24479#read> (Accessed: 21 February 2018). [In Russian]

³¹ Iceland: Oil for 2014 International Energy Agency Official Web Site. URL: <http://www.iea.org/statistics/statistics-search/report/?country=ICELAND&product=Oil&year=2014> (Accessed: 21 February 2018).

³² Iceland, like all Arctic nations, is Drilling for Oil. URL: <https://www.americansecurityproject.org/iceland-like-all-arctic-nations-is-drilling-for-oil> (Accessed: 21 February 2018).

³³ Agreement between Iceland and Norway on the Continental Shelf in the area between Iceland and Jan Mayen. URL: http://www.nea.is/media/olia/JM_agreement_Iceland_Norway_1981.pdf (Accessed: 21 February 2018).

In the law 2001³⁴, it is enshrined that the state owns hydrocarbons on its shelf. However, the owner of the license to develop the field can get the rights to the resources it has obtained. The authority responsible for issuing licenses is the National Agency for Energy (Orkustofnun). The National Agency consults with the Ministries of Environment and Fisheries before granting the license. Moreover, if the application covers the water area within one nautical mile from the shore, the agency is obliged to seek the opinion of the relevant municipality.

Licenses for the search of hydrocarbons are issued for up to 3 years, for exploration — up to 16 years, for extraction - up to 30 years, from the moment of issuing a license for exploration. Exploration and production licenses give operators exclusive rights to the relevant work on the shelf.

Permission for work is granted to companies that fully meet the requirements for the offshore experience and financial resources. The law 2001 empowers the National Agency to use more stringent requirements for companies than prescribed by the rules. The license holder pays an annual fee for the development of the deposit to the state budget. The need for state participation in the exploration and production of oil and gas resources is decided by the Ministry of Industry, Energy and Tourism in each case of issuing licenses.

The law defines the obligations of operators to ensure the safety of production and environmental protection. The license holder ensures “responsible” performance of works “in accordance with the current legislation”. And further “in the course of work on the exploration and production of hydrocarbon resources, public interests should be taken into account” (Article 10). Specific requirements are determined by the National Energy Agency. In addition, companies are required to comply with the best international drilling standards on the shelf (Article 13). Supervision over compliance with the appropriate level of safety and environmental protection measures is carried out by the National Agency.

Thus, in Iceland, where the level of development of the oil and gas industry is significantly inferior to the renewable energy sector, the legislative regulation of offshore hydrocarbon production is not detailed. The main normative act in this sphere is the law of 2001, which defines only the general framework for the behavior of offshore operators. In fact, the only authority that oversees the companies and develops specific requirements for them in the field of production safety and environmental protection is the National Energy Agency.

Iceland is aware of the inability to extract oil and gas on the shelf without the help of foreign companies. To attract technology and finance from outside, the state is gradually expanding the necessary national legal framework. In addition, the authorities are making efforts at the international level. So, the agreements with Norway on the regime of joint development of cross-border deposits, as well as the establishment of close economic ties with Chinese enterprises in-

³⁴ Act on Prospecting, Exploration and Production of Hydrocarbons No. 13 of 13 March 2001. Unofficial translation. URL: <https://nea.is/media/olia/Act-No-13-2001-03102011.pdf> (Accessed: 21 February 2018).

vesting in the island's infrastructure, indicate the course of the Icelandic authorities to develop their arctic possessions by opening the country foreign countries and companies.

Greenland (Denmark): emphasis on the international standards

Greenland, like the Faroe Islands, is a self-governing territory and a part of Denmark. Because of Greenland, Denmark today is a full participant in the Arctic “five” and an applicant for significant areas of the Arctic continental shelf.

In 2008, a referendum on self-government was held in Greenland. On May 20, 2009, the Danish Parliament passed a law on the extended autonomy of Greenland³⁵. In accordance with it, Greenland Self-Government Bodies have wide autonomous powers on home policy issues. The regulation of the mineral deposits development is still within the competence of local authorities. Nevertheless, the Greenland Self-Government authorities can only negotiate and conclude agreements with foreign states on behalf of the Kingdom of Denmark. In addition, the island remains largely dependent on subsidies.

Greenland owns wide variety of minerals. Thus, the results of geological exploration revealed the presence of conglomerates of deficit chemical elements (lithium, beryllium, niobium, etc.), rare earth metals, uranium and thorium. The island has large reserves of gold, diamonds, iron, nickel and zinc [7, Tulupov D.S., p. 4].

The development of oil and gas resources on the continental shelf of Greenland dates to the 1970s. In 1976 and 1977 American and European companies drilled 5 exploratory wells on the Greenland shelf that were “dry”, and therefore their interest to continue exploration had been lost. Several attempts to find commercial oil and gas reserves were undertaken in 1990s, but they also failed [1, Panichkin I.V., p. 164].

In 2006–2012 The Greenland government issued several licenses to foreign companies working in the Baffin Sea. Exploratory wells were drilled into the shallow water in Baffin Bay, but commercial oil reserves could not be found. The decline in world oil prices affected the plans of the oil and gas companies, many of which rejected the continuation of work on the Greenland shelf³⁶.

Nevertheless, in the development strategy of the mineral resource industry in Greenland for the period 2014–2018, the goal is to accelerate the economic development by creating new opportunities for profit and creating jobs in the oil and gas production. One of the means of achieving this goal is also the improvement of the legislative base about the licensing of offshore exploration and production activities. Until 2018, the Government of Greenland planned to put up

³⁵ Act on Greenland Self-Government. Act no. 473 of 12 June 2009. URL: <http://naalakkersuisut.gl/~media/Nanoq/Files/Attached%20Files/Engelske-tekster/Act%20on%20Greenland.pdf> (Accessed: 21 February 2018).

³⁶ Razrabotka morskikh neftegazovykh resursov Arktiki. [Development of the marine oil resources in the Arctic] Rider RSMO. URL: <http://russiancouncil.ru/arcticoil> (Accessed: 21 February 2018). [In Russian]

for sale several licensed sites on the west coast of the island³⁷.

Act on Greenland Self-Government 2009³⁸ found that the revenue from the mining in Greenland goes to the local government budget. However, the annual subsidy of Denmark is reduced by an amount corresponding to half of the profits from mineral resource development.

A characteristic feature of Greenland's legislation on offshore hydrocarbon development is that all aspects of this activity are regulated by a single normative legal act — the Mineral Resources Act 2010³⁹. The Exploration Drilling Guidelines was developed in accordance with this act⁴⁰. At the same time, these regulatory acts contain a minimum of specific requirements for companies and refer to the need to apply the best international standards and technologies.

In each oil and gas license, the state's share is 6.25% due to the participation of the fully state-owned company *Nunaoil*⁴¹. In accordance with the Law on Mineral Resources, licensees for the offshore development in Greenland must use local labor and enterprises to ensure their core business within reasonable limits (with their accessibility and competitiveness).

Regulation of the all the activities on the shelf of Greenland belong to one agency — the Bureau of Minerals and Petroleum [4, Dagg J., Holroyd P., p. 34]. Licenses for exploration are issued for a period of 10 or 16 years (depending on the location of the exploration area). If the company finds commercial oil or gas reserves, the license may be renewed for up to 30 years. Typically, the applicant must submit a production program with a description of the specific work carried out during the validity of the license. The total term of the license is divided into three stages. After each of these stages, the license holder decides either to refuse or to continue the work. In the second case, the company must refuse from 30% of the exploration area⁴².

The new mineral and raw materials strategy for 2014–2018 introduced some changes to attract new investments. Moreover, a special licensing regime was introduced, and made companies submitting a work program for three years. The license period in this case is not divided into stages, as in the standard procedure. If by the end of three years the company considers the exploration area promising, it has the right to apply for renewal for another three years⁴³.

Under this regime, the license holder has greater flexibility in revising its program of work. It is expected that the special regime will apply to the poorly studied areas of the shelf. The great-

³⁷ Kay J., Thorup S. Oil and Gas in Greenland — Still on Ice? URL: <http://www.mondaq.com/x/366832/Oil+Gas+Electricity/Oil+And+Gas+In+Greenland+Still+On+Ice> (Accessed: 21 February 2018).

³⁸ Zakon Danii o samoupravlenii Grenlandii [Danish Act on Greenland Self-Government]. URL: <http://worldconstitutions.ru/?p=300> (Accessed: 21 February 2018). [In Russian]

³⁹ Greenland Parliament Act of 7 December 2009 on mineral resources and mineral resource activities (the Mineral Resources Act). URL: https://www.govmin.gl/images/stories/faelles/mineral_resources_act_unofficial_translation.pdf (Accessed: 21 February 2018).

⁴⁰ Exploration Drilling Guidelines. Greenland Bureau of Minerals and Petroleum. URL: https://www.govmin.gl/images/stories/petroleum/110502_Drilling_Guidelines.pdf (Accessed: 21 February 2018).

⁴¹ Oil and Gas Regulation 2018. Greenland. URL: <https://iclg.com/practice-areas/oil-and-gas-laws-and-regulations/greenland> (Accessed: 21 February 2018).

⁴² Kay J., Thorup S. Oil and Gas in Greenland — Still on Ice? URL: <http://www.mondaq.com/x/366832/Oil+Gas+Electricity/Oil+And+Gas+In+Greenland+Still+On+Ice> (Accessed: 21 February 2018).

⁴³ Ibid.

est benefits in this case are small companies that do not have significant financial resources and technologies but have experience in research on the shelf at an early stage. After they receive information about the prospects of the field, they can involve large enterprises in the development. In addition, the mineral resource strategy for 2014–2018 made changes in Greenland's tax legislation and make it possible to expand the range of companies applying for licenses. The amount of tax payments should not exceed 52.5%⁴⁴. This is lower than interest rates in other states in the region.

So, by 2018, the Greenland legislative base in the oil and gas sector has been under construction. Unlike other Arctic States, the authorities have shown a willingness to replace specific technological and administrative requirements for companies with reference to the best available international practices.

Low oil and gas prices, the harsh climate conditions in Greenland and lack of infrastructure pose serious challenges to the development of the oil and gas industry. Despite this, the authorities of Greenland demonstrate optimism in this matter due to the recent measures to change local laws on the offshore development, aimed at attraction of new investment.

Norway: self-regulation as a factor of the sustainable development

At the conference “Arctic frontiers” held in Norway in January 2017, the Prime Minister E. Solberg expressed confidence that the economic benefits that the Arctic provided to coastal countries did not contradict the thesis about the need to protect the vulnerable nature of the region⁴⁵. Norway was indeed a Prime example of the effective development of the biological and mineral resources of the Northern region while meeting a high level of environmental standards.

In short time, Norway has become one of the world's largest oil and gas exporters since the discovery of hydrocarbon reserves on its continental shelf. The Kingdom is an undoubted leader in the underwater technologies for the development of offshore oil and gas fields. The oil and gas industry has become a powerful impetus in the rise of the country's economy. In many ways, Norway's current and future economic prosperity depends on energy resources⁴⁶. This was facilitated by a well-developed and balanced legal regime of subsoil use on the Norwegian continental shelf.

The main coordinator of the offshore oil and gas activities is the Ministry of Oil and Energy. Its structural units carry out general administrative functions and develop relevant by-laws. The supervision of compliance with the rules and requirements for offshore activities related to the protection of life and health in the workplace, environmental protection and other aspects of activity, from the stage of prospecting to preservation of drilling wells. All this is carried out by the

⁴⁴ Oil and Gas Regulation 2018. Greenland. URL: <https://iclg.com/practice-areas/oil-and-gas-laws-and-regulations/greenland> (Accessed: 21 February 2018)

⁴⁵ Speech by Prime Minister Erna Solberg at the Arctic Frontiers conference, 23 January 2017. URL: <https://www.regjeringen.no/en/aktuelt/arctic-frontiers/id2528099/?selectLanguage=no/id4> (Accessed: 20 February 2018)

⁴⁶ Ryzhova A.V. Norvegiia osvivaet resursy Arktiki. [Norway develops the Arctic resources]. URL: <https://riss.ru/analytics/28154> (Accessed: 21 February 2018). [In Russian]

Petroleum Safety Authority (PSA) — a subdivision of the Ministry of Labor of Norway⁴⁷. The collection of taxes from oil and gas activities falls within the competence of the Ministry of Finance⁴⁸.

In addition, the authorities, that controls the development of offshore fields. include the Norwegian Environment Agency, the Petroleum Safety Authority of Norway, etc.

The main legal act on oil and gas production on the continental shelf of Norway is the Law on Petroleum Activities, adopted in 1996⁴⁹. This law secures the state ownership of all hydrocarbon deposits in water areas. The whole continental shelf of Norway is divided into geographic rectangular blocks measuring 15' long and 20' latitude. In Norway, companies are also given a corresponding license for exploring or extracting resources, to develop the oil and gas resources of the Norwegian shelf. Before licensing, a mandatory assessment of the impact of oil and gas activity on the environment is usually conducted and social, economic and other effects industrial activities are identified.

The license for exploring is non-exclusive and does not provide a priority right to the holder for obtaining a production license. A license for exploration is valid no more than three years.

In contrast, production licenses are exclusive and issued by the state for 10 years. Applications for licenses are submitted to legal entities and individuals, either singly or in groups. After carrying out geological exploration, the license holder, as a rule, has the right to retain up to half of the license area for up to 30 years, and in some cases up to 50 years (articles 3–9 of the Law 1996) [8, Kokin V.]. If the results are negative, the license can be returned. The holder of a license becomes the owner of the resources obtained.

According to the Law 1996, the state has a share and direct participation. In 1973–1991, such a share could not be less than 50%, but in the subsequent licensing rounds it was constantly reduced. Until recently, direct financial participation on behalf of the state was managed through *Statoil*. In recent years, the state has established two specialized companies: *Petoro AS* — for the management of public direct financial participation, and *Gassko AS* — for the operation of the gas transportation system⁵⁰.

Legal acts on the exploration and production of oil and gas on the shelf also include laws on the protection of life and health of employees, on safety at work, on the prevention of harmful emissions, etc.

Norway differs from the other Arctic States. The Kingdom's approach to the legal regulation of oil and gas activities on the shelf is based on the principle of self-regulation of companies. The role of the state is to define safety standards. The law sets out the obligations of companies to

⁴⁷ Role and area of responsibility. Petroleum Safety Authority Norway. URL: <http://www.psa.no/role-and-area-of-responsibility/category916.html> (Accessed: 21 February 2018).

⁴⁸ State Organisation of Petroleum Activities. URL: <http://www.norskpetroleum.no/en/framework/state-organisation-of-petroleum-activites> (Accessed: 21 February 2018).

⁴⁹ Act 29 November 1996 No. 72 relating to petroleum activities. Norwegian Petroleum Directorate. URL: <http://www.npd.no/en/Regulations/Acts/Petroleum-activities-act/> (Accessed: 20 February 2018).

⁵⁰ State Organisation of Petroleum Activities. URL: <http://www.norskpetroleum.no/en/framework/state-organisation-of-petroleum-activites> (Accessed: 21 February 2018).

systematically identify risks associated with offshore operations, minimize and control them, as well as to respond in emergency situations. In this case, the operators have the choice of a means of achieving the law's task [4, Dagg J., Holroyd P., p. 38]. E.g., the Petroleum Safety Authority does the controls the implementation of laws on environmental protection, recommends certain practices, but usually offers the possibility of applying an alternative method of performing the task. Mandatory standards and requirements prevail in the US and Canada's laws, but in the legislation of Norway, they are minimized. At the same time, this approach assumes that the responsibility for the safety of exploration and production lies primarily with the companies⁵¹. In addition, the Kingdom has an extremely high level of the marginal rate of profit tax — 78% [3, Kaznacheev P.F., Bazaleva R.V., p. 123].

Thus, compare to the other Arctic states, the Norwegian regulation system for oil and gas activities on the shelf is highly developed; it has a more clearly defined hierarchy of regulations and provides companies with considerable flexibility in achieving the goal of ensuring environmental and industrial safety. At the same time, freedom of action means increased responsibility for the result and in terms of meeting the requirements for protecting the environment of the Arctic.

The described advantages of the Norwegian system seem to be one of the key factors in the attractiveness of the Kingdom for foreign investment in the oil and gas industry and the preservation of the leader status in oil and gas production in the Arctic. At the same time, Norway remains a state that successfully combines active economic activity in the region and eco-orientation.

Conclusion

The legislation of the Arctic States on regulation of oil and gas activities on the continental shelf has both similarities and distinctive features. The commonality of approaches is due to natural and climatic challenges and technical difficulties associated with the development of offshore fields in the Far North and the need for state control. Thus, all coastal states issue for the offshore field development, and have a system of state bodies to make the norms for such activities and monitor their implementation. As a rule, before obtaining a license from the state, companies are required to submit a schedule of works, a plan to respond to emergencies, and prove their financial, administrative and technical status, etc.

However, distinctive features in national regulatory frameworks exist. The United States and Canada have a high level of environmental standards and safety requirements. At the same time, considering the course of D. Trump on the active development of the oil and gas industry in the country, the United States is likely to make liberal changes in the national legislation. In contrast to the United States and Canada, Iceland, Greenland (Denmark) and Norway are more liberal in relation to choosing the means of achieving the goals, secured by home legislation.

⁵¹ Report OLF/NOFO — Summary of differences between offshore drilling regulations in Norway and U.S. Gulf of Mexico. URL: <https://www.norog.no/contentassets/4ed0dc5bf143402ea7ef4c6fb9953eb2/report-no-2010-1220-summary-of-differences-rev-02-2010-08-27-signed2.pdf> (Accessed: 21 February 2018).

Some differences in the structure of the supervisory authorities are also significant. In the USA, Canada and Norway, the supervision of production safety, environmental protection, licensing and collection of revenues from oil production on the shelf are distributed among different state bodies. In Iceland and Greenland, they are administered by one agency.

The legislation of the Arctic states also differs in degree of elaboration. Norway has the most structured and developed system of legal acts, which largely determines the leading position of the Kingdom in the extraction of oil and gas resources not only in the Arctic, but also in the world.

An extensive system of laws and regulations is made in the United States and Canada, but each act is dedicated to only one area of regulation (e.g., oil spill prevention, protection of life and health at the workplace, etc.). So, these acts and regulations do not form a single structure.

Iceland and Greenland have just started the development of the legal framework for the development of the Arctic hydrocarbons. In these states, all aspects of the offshore extraction are regulated through a single law, which contains a minimum of specific rules and refers to the best available international practices and standards.

The experience of foreign countries in the legal regulation of oil and gas exploration and production in the Arctic can be applied to improve our national legislation. So, one should consider a special mode of licensing for geological study and exploration, the way it has been done in Greenland. This mode involves the benefits for small companies, experienced in the research of the offshore areas, at the beginning. After exploration work is done, such enterprises will sell the results of their work to larger companies involved in production. Norway's legislation is an example of a successful combination of the effective economic performance and environmental orientation. The Kingdom places the companies at a higher level of responsibility for the results by providing them with considerable flexibility in the means of achieving environmental and labor safety. Such a form of interaction should serve an effective tool for mutually beneficial relations between the state and oil and gas companies in the Arctic, given the established system of state control.

One of the areas of international cooperation in the Arctic is the synchronization of national approaches to regulating the development of resources. Attempts have already been made to develop common legislative requirements for the Arctic coastal states within the framework of the Arctic Council. In 2009, the Arctic Council worked out the Offshore Oil and Gas Guidelines aimed at a unification of the standards and practices of the offshore resource extraction. The Guidelines contain recommendations on security issues related to the searching, exploration and production of oil and gas in the Arctic. However, the Guidelines do not have binding legal force. One of the three pan-Arctic binding international agreements directly but partly relates to the exploration and production of hydrocarbons — on cooperation in the liquidation of oil spills.

Under these conditions, an important step forward in ensuring sustainable development of the Arctic would be the establishment of the legal framework for the development of hydrocar-

bons on the Arctic shelf, exchange of information and best practices, cooperation to prevent the negative impact of oil and gas activities on the ecosystems of the North. Such work could be undertaken by the Arctic Council, experienced in this field.

References

1. Panichkin I.V. Razrabotka morskikh neftegazovykh resursov Arktiki: istoriya osvoeniya i perspective [Development of offshore oil and gas resources in the Arctic: history of exploration and prospects]. *Rossiiskaya Arktika: vyzovy i perspektivy razvitiya* [The Russian Arctic: challenges and development prospects]. Ed. by I. Prokofiev, D. Lyzhyn, A. Todorov. Moscow, RISS Publ., 2017, pp. 163–179. (In Russ.)
2. Baker B., Sidortsov R. *The Legal and Regulatory Regime for Offshore Hydrocarbon Resources in the U.S. Arctic*. ABA SEER, 2014, 43 p. Available at: http://www.americanbar.org/content/dam/aba/administrative/environment_energy_resources/resources/baker_sidortsov_hydrocabon_Arctic.aut_hcheckdam.pdf (accessed 21.02.2018).
3. Kaznacheev P.F., Bazaleva R.V. Osvoenie arkticheskogo shel'fa (Regulirovanie i nalogooblozhenie neftyanykh kompanii v SShA, Rossii i Norvegii) [Arctic offshore exploitation (regulatory and tax regimes for oil companies in the USA, Russia and Norway)]. *Ekonomicheskaya politika* [Economic Policy], 2015, vol. 10, no. 2, pp. 110–132.
4. Dagg J., Holroyd P., Lemphers N., Lucas R., Thibault B. *Comparing the Offshore Drilling Regulatory Regimes of the Canadian Arctic, the U.S., the U.K., Greenland and Norway*. The Pembina Institute, 2011. 179 p. Available at: <https://www.pembina.org/reports/comparing-offshore-oil-and-gas-regulations.pdf> (accessed 21.02.2018).
5. Konyshev V.N., Sergunin A.A. *Arktika v mezhdunarodnoi politike: sotrudnichestvo ili sopernichestvo?* [Arctic in international politics: cooperation or rivalry?]. Ed. by I.V. Prokofiev. Moscow, RISS Publ., 2011, 194 p. (In Russ.)
6. Erlendsson G.E. *Arctic Offshore Oil and Gas Concerns: Maritime Law, Sustainable Development and Human Rights: A Brief Look at Iceland and Greenland*: Master's Degree Thesis. Akureyri, 2010. 96 p. Available at: http://skemman.is/stream/get/1946/5650/14556/1/LLM_ritgerð.pdf (accessed 21.02.2018).
7. Tulupov D.S. Regional'naya politika Danii v otnoshenii Grenlandii i Farerskikh ostrovov na sovremennom etape [The regional policy of Denmark regarding Greenland and the Faroe Islands at the present stage]. *Materialy seminara «Political Aspects of Indigenous Research and Activity in Russia»* [Proc. seminar "Political Aspects of Indigenous Research and Activity in Russia"]. Moscow, 2008. Available at: <http://www.arcticcentre.org/loader.aspx?id=c2c34cdd-9353-408d-8635-18cf7535b4a7> (accessed 21.02.2018).
8. Kokin V. Pravoviye osnovy neftyanoi deyatel'nosti v Norvegii [Legal foundations of the oil industry in Norway]. *Neft'GazPravo*, 2003, no. 5. Available at: <http://www.lawtek.ru/analytics/20> (accessed 21.08.2017).