

## **Guidelines for submitting applications for approval of offshore installations for hydrocarbon exploration in Greenland, with particular emphasis on HSE (Health, Safety and Environmental) requirements**

These guidelines are intended for holders of licences for exploration and exploitation of mineral resources in the subsoil of Greenland territory.

Pursuant to the Mineral Resources Act, exploration wells must be drilled in accordance with good international practice, as established for hydrocarbon activities carried out under similar conditions. The activities must be carried out expediently and in a safe and environmentally sound manner. The licensees must endeavour to create a safe and healthy working environment and establish the necessary basis for solving their own health and safety issues.

The guidelines describe the requirements set by the public authorities when granting permits for the use of offshore installations for hydrocarbon exploration, specifically as regards compliance with good international practice in this area and expedient, safe and environmentally sound conduct. In addition, the guidelines name the public authorities that consider applications and the legal basis on which applications are granted.

If licensees comply with these guidelines, the public authorities basically consider the HSE requirements to have been met.

Before any work is initiated, the Bureau of Minerals and Petroleum (BMP) must approve all work programmes and associated HSE plans (reports) for the work involved in drilling exploration wells in Greenland offshore territory. BMP will, inter alia, base its decision on opinions obtained from the Danish Energy Agency (DEA), the National Environmental Research Institute (NERI) and the Geological Survey of Denmark and Greenland (GEUS).

### **Legislation governing HSE requirements in connection with exploration drilling on the continental shelf**

The following legislation applies:

1. Consolidated Act No. 368 of 18 June 1998 on Mineral Resources in Greenland, as amended, and
2. Act No. 295 of 4 June 1986 on the Working Environment in Greenland.

The Mineral Resources Act empowers administrative authorities to draw up regulations, terms and conditions regulating the safety and environmental aspects of an exploration and exploitation licence.

In addition to safety, the Working Environment Act aims to safeguard the health aspects of the HSE requirements, e.g. that a drillship is safely fitted out and that the working conditions on board protect the employees from any deterioration in their health during work on offshore installations.

## **Licensees must have an HSE management system**

Overall, exploration wells must be drilled in accordance with good international practice, as established for hydrocarbon activities carried out under similar conditions. The activities must be carried out expediently and in a safe and environmentally sound manner.

The licensees must endeavour to create a safe and healthy working environment and establish the necessary basis for solving their own health and safety issues.

Licensees must document an HSE strategy that complies with applicable internationally recognized standards.

Documentation must be provided in the form of a written report setting out an HSE management system. This report must be submitted to BMP before the work is initiated, and must be revised by the licensee if there are any major changes in the conditions described.

Licensees are required to observe internationally recognized standards for environmental and safety management. The public authorities consider the ISO 14001 standard on environmental management systems to be an acceptable basis. The ISO 14001 standard requires an organization to implement its environmental policy in planning every phase of its activities. This standard outlines the procedures for responsibility and competence, training, communication, supervision and control, as well as contingency plans. It also outlines monitoring requirements, including requirements for audits and management reviews. If other management systems are used, the public authorities evaluate them on a case-by-case basis.

## **HSE objectives**

As a minimum, the HSE policy should aim to implement the following objectives, viz.

- employing competent personnel in all phases of the operations
- giving personnel the necessary training
- carefully describing communication and alerting procedures involved in an operation, so that they are understood by all employees
- appointing one person responsible for reporting to the public authorities
- testing safety procedures prior to the start-up of an operation and continuously upholding them
- upholding administrative procedures for the control of all phases
- continuously upholding the implemented quality management system and improving it through continuous monitoring
- organizing all operational plans and ensuring compliance with relevant rules and regulations
- establishing procedures for the performance of maintenance and repairs
- ensuring that any provisional equipment installed complies with all applicable safety requirements
- ensuring that any deviations do not compromise safety requirements
- drawing up a time schedule prioritizing tasks to be performed in case of accidents

- ensuring that administrative decisions made by senior personnel are communicated to all employees
- maintaining a control system to ensure that the working environment is consistent with existing rules and regulations
- currently monitoring the risk of polluting the external environment
- documenting, implementing and maintaining environmental emergency preparedness, and ensuring that contingency plans are accessible to the public
- establishing ice contingency plans
- implementing the ISO 14001 standard for international environmental management

### **Approval of offshore installations for hydrocarbon exploration**

The public authorities must approve an offshore installation entering Greenland waters to drill exploration wells, before drilling operations can be commenced. Applications for approval of such installations must be submitted to BMP under the Government of Greenland. The HSE requirements will form part of the overall approval of the installation to be used for exploration.

The applicant must meet the requirements applicable to the technical safety of the offshore installation, the safety of the persons working on board and the environment.

An offshore installation will meet the requirements concerning its technical safety if it complies with the technical requirements and regulations from time to time applicable to such installations. BMP will also approve installations built in accordance with internationally recognized standards. For the purpose of granting approvals, BMP evaluates each individual installation. The Danish Maritime Agency must approve mobile offshore installations with regard to their safety during navigation.

A safe and healthy working environment must be provided on board the offshore installation, and applicants must have the necessary basis for solving their own health and safety issues, under guidance from labour and management organizations and under the guidance and supervision of BMP.

A mobile offshore installation is considered to meet applicable safety requirements, etc., if it complies with the rules regulating:

The layout of the workplace

- Performance of the work
- Substances and materials
- Crew list and organization chart
- Safety zones
- Transportation and standby vessels
- Diving operations and equipment
- External environment (the sea, coastal areas, plant and animal life, etc.)

The rules on a safe working environment are laid down in the Act on the Working Environment in Greenland.

## **Safety culture, including management, responsibility and control**

Licensees must establish and further develop a safety culture for the purpose of preventing unwanted incidents. This safety culture must be integrated into all parts of the licensee's organization.

Licensees must establish HSE goals and strategies and describe the procedures required to fulfil such goals and strategies.

The licensees must communicate these goals and strategies to all members of their organization and other responsible parties, and must regularly evaluate whether their management systems live up to the goals set.

Licensees must ensure that they have sufficient competent personnel to perform the tasks involved in exploration drilling and to monitor compliance with and control of all HSE requirements. It is essential that licensees describe the method and procedures for determining manning needs and competency requirements. Moreover, they must currently assess the need for further training of their personnel.

## **Licensees' emergency preparedness**

Licensees are required to establish safety and oil spill preparedness procedures. As a minimum, a contingency plan must encompass organization, manning, alerting and warning procedures, containment strategies and the location of equipment, establishment of communication, reception facilities for disposing of the oil collected, monitoring of the extent of the oil spill, coastal protection and coastal clean-up operations. In addition, the plan must prioritize the areas to be protected because of the wildlife or fishing interests. For drilling operations, the plan must also include procedures for drilling relief wells if a blowout cannot be stopped in any other way, and provide for the implementation of such procedures before winter puts a stop to activities. The oil spill contingency plan must indicate how any major oil spills can be contained and cleaned up. The licensee must be able to handle minor oil spills by means of equipment located in the vicinity of the well. In case of major oil spills, the licensee must engage international firms specializing in oil spill disposal and having the necessary equipment.

All contingency plans must be approved by BMP prior to the commencement of each individual activity. In connection with approving the contingency plan, BMP may determine that specific equipment and appliances may not be used or that the activities may not be carried on in specific areas and periods. In addition, BMP may order the licensees to monitor biological and physical conditions in the areas affected by the activities.

BMP will approve a contingency plan upon obtaining opinions from the public authorities with which it cooperates.

## **Public authorities' emergency preparedness**

The public authorities' emergency preparedness is organized in an action committee. The members of the action committee consist of the public authorities with which BMP is in contact during the drilling phase. Generally, the Greenland Naval Base (the Danish Ministry of Defence), the Chief of Police in Greenland, the Danish Maritime Agency, the High Commissioner for Greenland and the Bureau of Minerals and Petroleum are in charge of the committee's work.

The committee must monitor the measures to be taken by the operator of a drillship in the event of major accidents on board a drillship.

In addition, the committee must assist in the public authorities' coordination of rescue and containment operations and ensure that the public authorities gain full insight into an incident. Finally, the committee must assume an advisory and informative role vis-à-vis political bodies and the press.

The action committee's rules of procedure and the associated documents are obtainable from the BMP.

## **Permit to operate in Greenland waters (the Danish Ministry of Defence)**

Mobile offshore installations must obtain a permit to operate in Greenland waters from the Royal Danish Administration of Navigation and Hydrography under the Ministry of Defence. In addition, they must report directly to the Greenland Naval Base in Kangilinnguit (under the Danish Ministry of Defence) when entering Greenland waters.

Addresses:

Farvandsvæsenet (Royal Danish Administration of Navigation and Hydrography)  
Overgaden oven Vandet 62B, P.O. Box 1919,  
DK-1023 Copenhagen K  
Tel.: +45 32689500  
Fax: +45 32574341  
Website: [www.formfrv.dk](http://www.formfrv.dk)

Grønlands Kommando (Greenland Naval Base in Kangilinnguit)  
Tel.: +299 691911  
Fax: +299 691912 (administration)  
Fax: +299 691949 (24-hour operations)  
Website: [www.glk.gl](http://www.glk.gl)  
E-mail: [iscomgl@greennet.gl](mailto:iscomgl@greennet.gl)

## **Technical safety**

The technical safety of an offshore installation and its approval is regulated in some detail in the BMP document “application and requirements concerning exploration drilling for hydrocarbon deposits”, to which reference is made.

## **Drilling operations**

A licensee must obtain a drilling permit before commencing drilling operations. During drilling operations, the public authorities require submission of daily well and geology logs. The special forms to be completed appear from Appendix A to “application and requirements concerning exploration drilling for hydrocarbon deposits”.

## **Work permits**

Special rules on work permits apply to non-resident employees who are to work in Greenland for more than three months. In addition to a work permit, such employees may also have to obtain a residence permit. Further information is obtainable from the Danish Immigration Service.

Address:

The Danish Immigration Service, the 5<sup>th</sup> Residence Division, Section 1, Ryegade 53, DK-2100 Copenhagen Ø, tel. +45 35366600, fax +45 35365706, contact Denny Enemark-Nielsen, Head of Department.

Approving work permits is outside BMP’s sphere of authority.

## **Documentation and internal control**

Licensees must set up systems for documentation and internal control of the individual phases of the exploration process. This system must be established to ensure that the objectives of the HSE policy are currently monitored as well as implemented and, if necessary adjusted. Improvements can only be effected on the basis of documentation showing that the system operates inexpediently. Documentation and internal control are considered important tools in the performance of daily procedures, and should include records regarding the completion of specific tasks, relevant operational control systems and compliance with environmental objectives. Moreover, licensees must introduce monitoring procedures and establish internal procedures for registering any observations made. Moreover, compliance with relevant environmental legislation and regulations should be checked on a regular basis.

## **Supervision by the Bureau of Minerals and Petroleum, the Danish Maritime Agency and the National Working Environment Authority**

Various administrative authorities supervise the activities carried on under an exploration and exploitation licence. First and foremost, BMP supervises compliance with the terms of the exploration and exploitation licence; see the Minerals Resources Act. The expenses for such supervision are payable by the licensee.

Moreover, the Danish Maritime Agency is empowered to supervise the safety on board (drill) ships; see the Act on Safety at Sea. As regards the supervision associated with the approval of drillships, the Danish Energy Agency cooperates closely with the Danish Maritime Agency; see Executive Order No. 607 of 25 July 2001 on the Act on Safety at Sea.

Finally, the National Working Environment Authority is empowered to carry on supervision related to the working environment; see Act No. 295 of 4 June 1986 on the Working Environment in Greenland. The National Working Environment Authority may carry on this supervision in cooperation with the Danish Energy Authority.

### **Further information**

Further information about exploration wells and the HSE requirements attaching to an exploration and exploitation licence is obtainable from:

The Bureau of Minerals and Petroleum  
P.O. Box 930,  
3900 Nuuk,  
Greenland.  
Tel. +299 346800  
Fax +299 324302  
E-mail: [bmp@gh.gl](mailto:bmp@gh.gl).  
[www.bmp.gl](http://www.bmp.gl)