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**Executive Order
concerning health, safety and the environment
during the exploration phase of the Hydrocarbon Activities**

**Oljumálaráðið
Ministry of Petroleum**

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Executive Order no 35 of 8 March 2001
Concerning Health, Safety and the Environment
during the exploration phase of the hydrocarbon activities

Under the provisions of Parliamentary Act No. 31 of 16 March 1998 on Hydrocarbon Activities section 25, section 26(3), section 27(2), section 28(1), section 30, section 32(2) and section 45(1) paras c) and d) and subsection (3) and (4) the Minister has laid down the following provisions:

Part 1. Scope and definitions

Chapter 1.

Scope and definitions

§ 1. The Executive Order applies to management, risk and emergency response analyses, technology, operations and information and documentation in relation to the exploration phase of the hydrocarbon activity.

§ 2. For the purpose of this executive order these terms shall have the following meaning:

- 1) Health, safety and the environment: a general expression relating to matters of importance concerning health, safety and the environment for the individual, the offshore installation as a whole and the economic value of the offshore installation, including operational availability.
- 2) Risk Acceptance criteria: Criteria used to express an acceptable risk level in the activities.
- 3) ALARP: As Low As Reasonably Practicable.
- 4) Emergency response: technical, operational and organisational measures that prevent a hazardous situation from developing into an accident, or prevent or reduce the damage from accidents.
- 5) Critical safety systems: systems, which are needed to maintain control in a hazardous situation.
- 6) Reliability: Probability that the system functions when needed or is available in a normal situation.
- 7) Risk: The combination of the probability for damage to occur and the seriousness of such damage.
- 8) Safe job analysis: risk analysis of critical work operations, which may cause increased

risk.

9) Vulnerability: The danger of losing a system's function as a consequence of a fault or an accident.

10) Uncertainty: The spread of the risk assessments as a consequence of data quality or methodology used.

11) MODU Code: Code for Construction and Equipment of Mobile Offshore Drilling Units 1989 with 1991 amendments to the 1979 and 1989 Codes of the International Maritime Organisation.

12) SOLAS: International Convention for the safety of life at sea 1974 (with subsequent amendments).

13) ICLL: International Convention of Loadlines 1966 (with subsequent protocol 1988).

14) MARPOL: International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978.

15) ETRS: European Terrestrial Reference System 1989.

16) IMO/MSC circular 645: Guidelines for vessels with dynamic positioning systems, 6 June 1994.

Part 2. Management of the hydrocarbon activities

Chapter 2.

Management systems

§ 3. The party in charge of the activities shall lay down requirements for the systematic management of health, safety and the environment and for the continuous improvement thereof.

§ 4. The party in charge of the activities shall establish, and continuously develop a safety culture with the objective of preventing

undesirable events and conditions. Personnel at all levels of the organisation shall be actively involved in the work of promoting this.

(2) There shall be a forum where employees and employers can freely and constructively discuss issues concerning health, safety and environment.

§ 5. Management systems shall be established, maintained, and further developed, in co-operation with the employees and their elected representatives.

§ 6. Objectives and strategies for health, safety and the environment shall be established. Objectives and strategies shall comply with legislation, company policies and good practice.

(2) Necessary processes and management loops required to achieve goals and strategies as mentioned in (1) above shall be described. For processes that influence each other, the interfaces concerning responsibility, authority and assignment of tasks shall be documented.

§ 7. Goals and strategies shall be communicated to the employees and responsible parties. The goals shall be specific, for them to be measured and followed up.

(2) The management level of the party or parties in charge of the activities shall at all times allocate the necessary resources, so that planned activities can be carried out and non-planned activities managed.

(3) Regular evaluations shall be made to determine whether management control systems meet the stipulated goals. Experience from use and reviews of management systems shall be documented and used for improvements.

§ 8. The party or parties in charge of the activities shall have sufficient internal competence and manpower to define, lead, control and evaluate the work, important to health, safety and the environment.

(2) Specific competence requirements shall be established for individuals as well as teams occupied with the execution of functions and tasks related to health, safety and the

environment. Reviews shall document whether these competence requirements are adequate.

(3) Methods and procedures for stipulation of the need and the requirements for manning and qualifications shall be described.

(4) The need for training shall be identified and assessed at regular intervals. Programmes for training shall be documented.

Chapter 3

Control systems

§ 9. The party in charge of the activities shall measure and monitor technical, operational and organisational parameters of importance to health, safety and the environment.

(2) Systems shall be established to give warnings of adverse or irregular health, safety and environmental related trends so that corrective measures can be implemented.

§ 10. The management system shall be subject to regular audits in order to verify conformity with specified goals, strategies, action plans, work programmes, processes, procedures, instructions and guidelines.

(2) Results from the audits shall be handled at management level of the parties in charge of the activities. The audit results shall be communicated to relevant personnel at all levels in the organisation.

(3) Audits shall be planned and documented. Results from the audit activities shall be documented with a time schedule for the implementation of corrective measures.

(4) The operator, or the party in charge of operating the offshore installation, shall inform the contractors and sub-contractors of serious events that might lead to undesirable events or accidents.

(5) Systems for accident investigations shall be established.

§ 11. The Operator shall provide for independent verifications of organisational, technical and operational conditions of importance to maintaining an appropriate health, safety and environmental level.

§ 12. Systems to identify, record and handle non-conformances shall be established.

(2) Non-conformances shall be subject to formal and documented handling in relation to company safety level and the safety level in general. Responsibility and authority in relation to processing of non-conformances shall be specified.

§ 13. Where a non-conformance cannot be corrected, mitigating measures shall be implemented.

(2) Measures shall be implemented to prevent similar non-conformances from recurring.

Part 3. Analyses

Chapter 4

Risk and emergency response analyses

§ 14. The party in charge of the activities shall ensure that analyses are undertaken and used in connection with the assessment and management of risk in the hydrocarbon activities.

§ 15. The operator is in charge of ensuring that the risk level does not exceed an acceptable risk level. The operator shall establish a plan for the development and use of analyses in the activities.

§ 16. An integrated and total risk and emergency response analysis shall be performed for the offshore installation and activities onboard. The analyses shall identify all relevant risks, evaluate these against the defined risk acceptance criteria, identify risk reducing measures and assess the emergency response.

(2) Defined risk acceptance criteria shall reflect all legal requirements and the operator's own requirements for health, safety and the environment. The risk acceptance criteria shall be established and documented prior to the performance of the analysis.

(3) Defined risk acceptance criteria shall as a minimum establish requirements for:

- 1) Escape routes.
- 2) Safe refuge area.
- 3) Evacuation.
- 4) Maintenance of control in an accident situation, and
- 5) The environment.

(4) ALARP may be used in assessing risk reducing measures, if the cost associated with implementing a measure is disproportional to the risk reduction achieved.

§ 17. The operator of an offshore installation shall identify critical work operations that may entail risk for the individual, the environment or material assets. For such operations a safe job analysis shall be undertaken to identify necessary measures to maintain an acceptable level of health, safety and the environment.

§ 18. The emergency response shall be analysed and dimensioned on the basis of:

- 1) Hazards and accident situations in accordance with identified risks, and
- 2) Minor hazards and accident situations that may cause harm to the individual, the environment or material assets.

§ 19. The analyses shall be specific to the offshore installation and planned drilling and well activities, production testing, temporary or permanent abandonment of the well, and modifications.

(2) Necessary competence in the analysis methods, system knowledge and drilling issues shall be documented by the operator to ensure the quality of the analyses.

§ 20. The analyses shall identify available and adequate emergency response and define the performance requirements for the emergency response.

(2) Uncertainty in the risk estimates shall be documented. Assumptions and presumptions in the analyses shall be documented. These shall be assessed against changes in the systems and in the use of the offshore installation.

(3) The analyses shall identify all critical safety systems. The vulnerability of the systems shall be analysed and evaluated against the system as a whole. No single event shall be capable of disabling a safety critical system.

§ 21. The assumed or estimated reliability of safety critical systems shall be maintained in such a way that the risk level is kept within the specified risk acceptance criteria. The

system reliability shall be documented through a separate analysis.

Part 4. Technology

Chapter 5

Offshore installations, equipment, etc.

§ 22. The party in charge of the activities shall ensure that offshore installations and its equipment are designed and outfitted using suitable technology so that offshore installation and its equipment is appropriate in terms of health, safety and the environment.

§ 23. The operator shall lay down criteria, which the offshore installation shall satisfy. Such criteria shall at least comprise:

- 1) Risk of accidents based on analyses,
 - 2) Working method,
 - 3) Water depth, ocean currents and sea temperatures,
 - 4) Weather and wind conditions,
 - 5) Geographical location and
 - 6) Characteristics of the drilling operations, such as total well depth, pressure, temperatures and formation properties.
- (2) Offshore installations shall, as a minimum, fulfil requirements specified in the MODU Code and other relevant IMO requirements such as Marpol, Solas and Load Line. Before an offshore installation is put into operation it shall be class approved, have the necessary certificates and successfully have completed function tests of safety critical systems.

§ 24. The main safety function on the offshore installation shall be defined in a clear and unambiguous manner. The following functions shall be maintained notwithstanding the occurrence of accidents:

- 1) Barriers that prevent an escalation of the event,
- 2) Strength of load-bearing constructions,
- 3) The stability of the offshore installation,
- 4) Safe storage of fire fighting equipment,
- 5) Safe areas, where personnel can take refuge, and
- 6) At least one available evacuation route.

§ 25. The facilities, equipment and systems

shall be designed such that no single component failure or single error will lead to unacceptable consequences.

(2) The facilities, equipment and systems, including mobile equipment shall be tagged, and shall be user and maintenance friendly.

§ 26. Offshore installations shall be equipped with safety systems according to requirements specified in the MODU Code.

(2) Offshore installations shall be equipped with drilling related safety systems to prevent failures and abnormal conditions from developing into hazardous and accidental situations.

(3) The safety systems shall cover the intended functions independent of other systems. Status of the safety systems shall be known at any time.

§ 27. Offshore installations shall be equipped with instruments for the monitoring and recording of conditions and events of importance to ensure that the activities are executed in a secure manner with regard to health, safety and the environment. As a minimum the following parameters and events shall be monitored and recorded:

- 1) Movements of the offshore installation,
 - 2) Corrosion,
 - 3) Dangerous operations, and
 - 4) Environmental data.
- (2) Instruments for monitoring and recording parameters of safety critical systems shall be connected to an emergency power supply.
- (3) An offshore installation, which previously has not been used for hydrocarbon activities, shall be equipped with instruments for the collection and processing of data for verification of the method of calculation used as a basis when dimensioning the installation.

Chapter 6

Technical working environment

§ 28. Layouts and transport paths shall be designed such that the material handling can take place in an unrestricted and safe manner and to the largest extent by the use of technical systems and supporting technical equipment.

(2) Remotely operated mechanical equipment for drilling and well operations shall be used when workstrings are transported, handled and connected.

(3) The remotely operated systems shall as a minimum have the capacity to handle the workstring components individually and when connected.

(4) Offshore installations shall be equipped with automatic alarm systems warning of deviations and failures in equipment and systems connected to the drilling operations.

§ 29. Work places and working equipment shall be designed and placed in such a way that the workers are not exposed to strains that may cause injury or illness, and in such a way that the possibilities for human error are reduced to the greatest extent possible.

(2) The lighting shall be designed in such a way that work and traffic can proceed in a safe manner, both with regards to normal operations and in emergency situations.

§ 30. Offshore installations shall be designed in such a way that workers are not exposed to harmful noise. The noise level and acoustics shall not hinder communications of importance to safety.

(2) Noise harmful to the hearing shall primarily be reduced by the use of low noise equipment or by the use of technical means of protection.

§ 31. At work places where computers and the like are being used, the technical equipment, the design of the work place, viewing position and the surrounding environment shall be in accordance with the accepted European standards.

§ 32. Outdoor work places shall, as far as possible, be designed to provide protection against adverse climatic exposure.

§ 33. Equipment to be used for the transport of personnel shall be certified for the purpose.

§ 34. Fire fighting, survival and evacuation equipment, together with the access to the equipment, shall be marked and signposted.

(2) Markings shall be easily visible, unambiguous and easy to understand. The signs shall be in compliance with European

standards for safety signs and signalling.

§ 35. The living quarters shall be marked and signposted so that one always can locate his/hers whereabouts. All rooms in the living quarters shall be clearly marked with their purpose. Bunks are to be marked.

(2) All materials used in the living quarters shall be selected for easy cleaning.

(3) The living quarters shall be arranged and equipped for both men and women.

§ 36. The living quarters shall be furnished with sufficient cabins, hospital, dayroom, canteen, changing and shower rooms, laundry and drying room for clothes, sanitary rooms, offices and other storage and workrooms as well as galley, provisions room, cool store and freeze store. The rooms shall be suitable for the intended purpose and suitably equipped.

(2) No more than two persons shall occupy a cabin and if there is no adjacent shower and toilet there should be at least 6 m² per person. If the cabins are equipped with their own shower and toilet, the minimum floor area is 4,75 m² per person.

§ 37. The living quarters shall be protected from low and high temperatures and noise and air pollution emanating from the rest of the offshore installation.

§ 38. The hospital shall be located in such a way that stretcher transportation between the work areas and the hospital and between the hospital and the helideck may be carried out unhindered.

(2) In case of power blackout the hospital shall have sufficient working lights and critical equipment shall be powered by the emergency power supply.

Chapter 7

Drilling and well related equipment

§ 39. Well barriers shall be designed in a way that enables the rapid re-establishment of lost barriers, and shall as a minimum include requirements for:

- 1) Number of barriers,
- 2) Physical nature of barriers,
- 3) Functionality, and

4) Testing

(2) Barriers in use simultaneously shall be independent, so that a failure in control or operating systems will not render all barriers inoperable.

§ 40. Drilling and well activities shall be managed and controlled using equipment dimensioned to close in and secure the well in the event of loss of a well barrier.

(2) The blowout preventer shall be designed in such a way that liquids and gas may be flowed from of the well in a controlled manner and circulated to a manifold through two independent pipe systems. All outlets from the blowout preventer circulation lines shall be equipped with two closing systems as close to the outlet as possible.

(3) The activation of the blowout preventer shall be possible from at least three positions on the offshore installation. The control panels shall provide a control signal to the blowout preventer independently of each other.

§ 41. Well control equipment used during well interventions shall have remote operated valves with mechanical locking devices in the closed position.

(2) Activation of well control equipment used during well interventions shall be possible from at least two different positions on the installation, of which one is in a safe area.

§ 42. There shall be sufficient accumulator capacity to perform the necessary number of operations of the well control equipment, and to activate the barrier functions with reference to a defined set of activities.

§ 43. Offshore installations shall be equipped with a hoisting, tensioning and compensating system so that the vertical movements of the installation do not influence the drilling riser. Dynamically positioned installations shall be equipped with an active compensating system that makes it possible to connect and disconnect equipment from the well.

(2) Installations shall be equipped with a disconnect system that activates the valves in the blowout preventer and releases the drilling riser. The disconnect system shall be

controlled sequentially.

§ 44. Before commencing deep water drilling, the inner diameter of the kill and choke lines shall be assessed as adequate to meet the requirements for well control, taking into account pressure losses and friction resistance.

§ 45. Offshore installations shall have equipment enabling the controlled circulation out and bullheading of well fluids during a wellkick situation.

(2) In an emergency it shall be possible to divert the formation fluids to a degasser or overboard pipe. It shall be possible to monitor all critical parameters of this operation.

§ 46. Offshore installations shall be equipped with drilling fluids systems that at any time can mix, store and circulate drilling fluid.

(2) It shall be possible to monitor the drilling fluids system continuously and the system shall be equipped so that sufficient well control requirements are fulfilled.

(3) The tank volume shall be sufficient to enable displacement of the well volume with premixed mud.

(4) The storage and mixing capacity shall be sufficient to maintain control in lost circulation situations.

§ 47. The high pressure cementing system shall be equipped to meet the requirements for mixing ratios, pump rates and specific gravity that are appropriate to the well. The pumping system shall, if necessary, be constructed for the handling of corrosive fluids and acids.

(2) The high pressure pumping unit, with associated high pressure systems, shall have capacity and working pressure rating for pressure testing of the well and well equipment, at the same time as well control is maintained.

§ 48. During controlled production testing the surface equipment and downhole tools shall be suited to the well's parameters and the need for the acquisition of well data. When production testing is being performed, the high pressure pumping system shall be hooked up to the kill side of the test tree in order for immediate killing of the well to be

possible.

(2) It shall be possible to divert all well production through a manifold and thence to a burner boom system so that hydrocarbons can be burnt off.

§ 49. The following are the minimum requirements for equipment used in connection with a well test:

1) Test string and production tubing shall make the following possible:

- a) Isolation of a production area without setting the packer in the open hole,
- b) Activation of the downhole safety valve to close off the fluid flow,
- c) Circulation of fluid from the annulus to the test string or vice versa,
- d) Acquisition of downhole data,
- e) Transportation of fluids from the formation to the surface equipment through a gastight conduit,
- f) Downhole sampling or wireline sampling,
- g) Injection of fluid, and
- h) Disconnection at seabed in the event of an interruption to the operations.

2) The surface equipment shall make the following possible:

- a) Total control of the fluid flow,
- b) Separation and measurement of gas, oil and water volumes,
- c) Sampling and performance of standard analyses of formation fluids, and
- d) Safe shut-in of the operation from at least two alternative positions.

3) Perforating equipment shall be designed in such a way that unintentional firing on the offshore installation and in the well is impossible.

§ 50. Loading and unloading systems, and equipment for the transportation of fluids containing hydrocarbons between the offshore installation, service vessel, special vessels of supply vessel, shall be designed to avoid polluting discharges.

Part 5. Operations

Chapter 8

Offshore installations, etc

§ 51. The party in charge of the activity shall ensure that the drilling and well activities during the exploration phase are carried out in a proper manner with regard to health, safety and the environment.

§ 52. Offshore installations shall be positioned, used and demobilised in a proper way, and in accordance with the conditions forming the basis for the approval of drilling and well activities.

(2) The safety zone around offshore installations is 500 m. It is prohibited for unauthorised personnel to sail, fish or fly or perform other activities in the safety zone.

(3) In case of changes to the preconditions for the activities, measures shall be implemented to ensure that proper health, safety and environmental conditions are maintained.

§ 53. Technical safety systems, relevant to the offshore installation and the well, shall at all times be functioning. In the control room it shall be possible to read the status of safety critical systems.

(2). If a safety system, or part thereof, is taken out of operation manually, or in case of a malfunction of the system or parts thereof, mitigating measures shall be implemented as rapidly as possible.

(3). An activated safety system shall be reset manually when the alarm situation is clarified and under control.

§ 54. Offshore installations and equipment, including third party equipment, shall be in good repair and maintained so that technical standards for health, safety and the environment are maintained.

§ 55. Long-term maintenance plans shall as a minimum put emphasis on the design criteria of the offshore installation, the equipment, operations and maintenance status.

(2) Acceptance criteria and guidelines for prioritising and frequency of maintenance activities shall be established.

§ 56. Systems and equipment that are important to health, safety and the environment shall be subject to function and pressure testing to verify that requirements for functional reliability are met. The frequency

and limit values for the testing shall be based on the equipment's reliability.

(2) Results from function and pressure testing shall be reported and filed in accordance with established procedures.

§ 57. Offshore installations shall be properly manned for normal operations, emergency response situations and during labour disputes.

(2) The central control room shall always be manned.

(3) Nobody shall have access to the offshore installation without permission from the owner or operator.

§ 58. An updated register shall be kept of all personnel onboard the offshore installation or vessels participating in any activities for which the operator is responsible. The register shall also comprise all personnel travelling to and from the offshore installation or vessels.

(2) Each individual shall be informed of matters of importance to health, safety and the environment onboard. Personnel participating in the hydrocarbon activities shall be informed of rules applying to stays onboard offshore installations and support vessels.

(3). In connection with crew changes, the status of ongoing activities, including all new or changed information of importance to safety, shall be communicated to the replacement crew.

§ 59 All work shall be planned so that all relevant operational, safety and technical requirements are fulfilled.

(2) Proper care is to be exercised to ensure that activities which, seen in isolation, are relatively low risk, do not interact with each other and cause a combined risk level that requires implementation of special risk reducing measures. (3) For work requiring specific safety precautions, work permits shall be issued, in which the conditions to be fulfilled and measures to be implemented before, during and after the work are laid down.

(4) Temporary safety notices shall be put up when there is a risk of accidents or damage to health.

Chapter 9

Working environment

§ 60. Personnel participating in hydrocarbon activities shall be 18 years old or more.

§ 61. Time spent travelling to and from the work place is not counted as working time.

(2) The working time shall be arranged so that within each day, counted from the normal working time start-up, the employees shall be given a minimum continuous resting period of 11 hours.

(3) The time between two consecutive rest periods must not exceed 16 hours.

(4) Breaks shall be at least half an hour if the working hours are less than 8 hours per day, otherwise 1 hour. Breaks are counted as part of working hours.

(5) The provisions of Sect 3 and 4 above do not apply to persons in leading positions.

(6) An off duty period shall as a minimum consist of 3 consecutive days. The work period between two off duty periods shall not exceed 14 days.

(7) During a period of 26 weeks, the accumulated working time shall not exceed 1040 hours.

§ 62. In special circumstances and for a limited period, it may be agreed between employer and employee, to reduce the daily rest period to 8 hours.

(2) It may be agreed to change the off-duty period. There must not be more than 28 days between two off duty periods.

§ 63. The work shall be arranged with regard to the duration of the work period, so that the employee is not exposed to inappropriate workloads. All parts of the work are to be planned to reduce the possibility for human error to as low a level as possible.

(2) Emphasis shall be placed on establishing a balance between demands on the employee, and the employee's feeling of control over his own work situation. The importance of social interaction in relation to health, security and wellbeing shall be taken into consideration.

§ 64. Employees shall not be exposed to work loads that may cause injury or illness due to

manual handling, poor ergonomics, repeated movements or intensity of work.

(2) Suitable equipment shall be available for handling of heavy objects. Hand tools, aids and implements shall be fit for purpose and designed so they do not inflict any injuries or illnesses on the employee.

(3) The employer shall ensure that the employees are instructed in the correct use of hand tools, aids and implements.

§ 65. Personal protection equipment shall be used to protect the worker against risks that cannot be eliminated or properly mitigated by other means.

§ 66. Exposure of employees to harmful chemicals and materials, carcinogenic chemicals and processes or biological agents shall be minimised. Harmful chemicals, substances or materials must not be used if they may be replaced with a safe, less dangerous or less inconvenient, chemical, substance or material.

(2) Harmful substances and chemicals shall be classified, marked, packaged and stored in accordance with recognised European norms.

(3) Before any harmful chemicals are used, the product data sheet shall be published and made easily accessible. An updated file of product data sheets shall be available on the offshore installation.

§ 67. Protection of employees against radiation shall be according to the regulations given in the legislation. The exposure of employees to ionising radiation shall be minimised. Radioactive sources shall not be used if these may be replaced by methods, which are safe, less dangerous, or less inconvenient and otherwise are deemed to be technically satisfactory.

(2) A listing of those radioactive substances that are onboard the offshore installation shall be available at all times, containing type of equipment, radioactive source, radiation level, protection requirements and where they are stored. Radioactive sources and substances shall be marked in accordance with the regulations.

(3) Work that involves contact with low

radioactive material shall be organised to avoid the creation of dust in order to minimise the danger of inhaling dust particles.

(4) Exposure of employees to non-ionising radiation shall be minimised to the greatest extent possible.

§ 68. Employees shall not be exposed to noise, that may impair hearing.

§ 69. Employees shall not be exposed to vibrations that could be harmful or result in undesirable incidents.

§ 70. The employees shall not be exposed to climatic conditions that may harm the health or increase the probability of errors. Criteria shall be established for those climatic conditions that will require special protective measures for outdoor activities, and when such work shall be restricted or stopped.

§ 71. The party in charge of the activities shall ensure that health and hygiene matters, such as health service, emergency medical response, transportation of sick or injured persons, drinking water, catering and other relevant matters are administered properly.

(2) Everybody staying on an offshore installation shall be covered by a comprehensive health service that takes care of both preventive activities and perform curative services.

§ 72. An authorised doctor shall have the professional responsibility for the health service.

(2) As a minimum there shall at any time be one authorised nurse onboard an offshore installation.

(3) The operator shall have procedures to ensure that a doctor may be contacted at any time, and if necessary travel to the offshore installation.

§ 73. There shall at any time be sufficient medicines and medical equipment onboard the offshore installation to cater for requirements during normal operation and emergency situations. Medical supplies shall comply with legal requirements.

§ 74. The operator shall ensure that the personnel are medically fit for the work that has been assigned to them.

(2) The medical condition of persons participating in hydrocarbon activities shall be documented with a medical certificate.

§ 75. Production, packing, storage, transportation and serving of food shall conform to the legislation on foodstuffs.

Chapter 10

Emergency response

§ 76. The communication systems shall take care of internal and external warning, alarm and communication during normal operations, during mobilisation and demobilisation and in situations of hazard and accident.

(2) Offshore installations shall have 24 hours a day communication equipment for speech and data to shore. At any time it shall be possible to contact and communicate with other offshore installations, vessels and helicopters.

§ 77. Emergency response plans shall be prepared. These shall describe the necessary emergency response measures to be initiated in defined situations of hazard and accident.

(2) The emergency response plan shall describe how the necessary resources are to be mobilised.

(3) The emergency response plan shall be kept continuously updated, and the person in charge of such updating shall be assigned.

(4) Response to medical emergencies and to acute pollution of the ocean environment shall be comprised by the emergency response plan.

§ 78. The emergency response organisation shall be based on defined emergency response measures.

(2) Emergency response duties assigned to a particular person shall be compatible with his daily work.

§ 79. Personnel shall have passed basic courses in safety and emergency response in accordance with Western European norms.

(2) Requirements concerning safety and emergency response qualifications shall apply to all personnel. Special requirements shall apply to personnel that:

a) Participate in the establishment,

maintenance and further improvement of the emergency response, and

b) Are part of emergency response units and management.

(3) Training programmes shall be developed for all those forming part of the emergency response organisation and exercise plans based on defined hazard and accident scenarios shall be prepared.

§ 80. The central control room shall be warned of dangerous situations and accidents manually or via automatic alarm systems.

(2) The general alarm shall be sounded by means of both audible and visual alarms.

§ 81. The operator shall, when appropriate, formally co-ordinate emergency response plans and resources for his own offshore installation with other operators, other licensees, and the plans and resources of the authorities.

Chapter 11

Drilling and well activities

§ 82. The well's position shall be defined by geographical longitude and latitude in accordance with ETRS89.

(2) Before drilling or well activities are initiated, position for relief well location shall be determined.

(3) Planned well position and well path shall not be closer to a neighbouring licence border or foreign state's continental shelf than the level of uncertainty built into ETRS89.

(4) Data concerning the well path position shall be available at any time.

§ 83. The operator's representative and the person in charge of the operation of the drilling systems or well intervention system, and the leaders of the ongoing drilling and well activities, shall have well control qualifications.

§ 84. The drilling location shall be selected so that the risk of encountering shallow gas or other formation fluids is as low as possible.

(2) It shall be described how the offshore installation and the equipment are intended to handle shallow gas and pressurised water.

§ 85. Casings and the well foundation shall be

such as to preserve well integrity. It shall be possible to cut casings without the use of explosives.

§ 86. When a barrier, or a barrier element are installed, it shall be verified that the specified barrier requirements are fulfilled.

(2). In case of failure in a barrier, the operator shall implement measures for maintaining a satisfactory safety level until the barrier is replaced. During this time no other activities shall take place in the well.

(3) Mitigating measures shall be implemented when operations entail a weakening of the barrier or do not fulfil the requirements to a barrier.

(4) Detailed procedures shall be established for controlling well kicks, and the personnel shall train regularly in performing these procedures.

(5) The need of a riser margin shall be assessed against the risk of a barrier failure.

§ 87. Offshore installations shall have enough pre-mixed drilling fluids for use in critical situations.

§ 88. It shall be possible to relocate offshore installations from the well position in case of an uncontrolled blowout or other hazardous situations. Procedures for such disconnection and relocations of offshore installations shall be established.

§ 89. Measurements of formation pressure and verification of formation strength shall be initiated at the latest when drilling out of the surface casing commences.

(2) The weakest formation strength in the well shall be calculated. If the formation strength is not satisfactory, the remaining drilling programme shall be updated and mitigating measures implemented.

(3). It shall be possible to register signals from the well indicating that the formation pressure approaches or exceeds the pressure in the well early enough to prevent a possible flow which could expose the well or the offshore installation to danger.

§ 90. Operational limitations for well testing shall be defined with regard to the formation properties, the installation's technical

capabilities, environmental factors and climatic conditions.

§ 91. The operator shall ensure that relevant and reliable data are acquired for the evaluation of the characteristics of the well and the reservoir.

§ 92. Before the well is abandoned, the operator shall prepare a programme and plans documenting that formation fluid cannot flow between the formation layers or to the seabed.

(2) The well shall be secured with at least two barriers.

(3) Temporary plug back shall be performed in a manner that supports sound and safe reconnection of the well.

§ 93. Well control equipment shall be in function and pressure tested in accordance with internationally recognised standards.

Chapter 12

Marine operations, etc.

§ 94. The operator shall develop a plan for positioning the offshore installation including, if necessary, a mooring plan and underwater operations for positioning subsea equipment. The plans shall be based on performed analysis.

(2) Operational limitations shall be defined, documented and updated in accordance with experience gained with the offshore installation in question.

§ 95. The IMO/MSC circular 645 shall be used as the basis for the selection of the class of dynamic positioning system.

(2) The operator shall ensure that personnel involved in the drilling operations and personnel operating the dynamic positioning system, adhere to established procedures for the interaction of such operations.

§ 96. Support vessels and other vessels participating in the hydrocarbon activities, shall observe the requirements for such vessels laid down in the relevant Maritime Legislation.

§ 97. Lifting operations shall be conducted in accordance with accepted standards and company requirements specified in procedures for safe operation.

(2) All participants in lifting operations shall be equipped with two-way radio communication.

§ 98. Personnel transportation using lifting appliances shall be kept to a minimum and must only be carried out with the permission of the offshore installation manager. Lifting appliances shall be certified for the purpose.

§ 99. Cargo to and from the installation shall be marked with weight and content.

Part 6. Information and documentation

Chapter 13

Documentation, reporting, etc.

§ 100. The party in charge of the activities shall establish systems for collecting, storing and processing of information and documentation.

(2) Information and documentation shall be submitted to the relevant authority at no charge.

§ 101. The licensees, owners or users of the offshore installations, shall collect data and information during the licence period and store these for as long as necessary to ensure appropriate hydrocarbon activities. The collected data and information are to be stored in a manner enabling later reading, listening, presentation, transmission or other reproduction.

(2) Data and information shall after the expiry of the storage period be offered to the relevant authorities.

§ 102. In order for data and information to be deemed documentation, it must consist of a defined and coherent package of data and information, prepared and stored with a specific purpose in mind.

§ 103. Applications for approval of drilling and well activities pursuant to § 15 of the Parliamentary Act on Hydrocarbon Activities shall be submitted in 5 copies, one of which shall be electronic. The application shall, as a minimum, contain:

1) Relevant technical and operational information to assess the offshore installation's suitability for operation in the

relevant sea area,

2) Environmental Impact Assessments pursuant to § 23 of the Parliamentary Act on Hydrocarbon Activities,

3) An integrated and total risk and emergency response analysis pursuant to § 16,

4) An assessment of the drilling location with regard to shallow gas, shallow pressurised water, Hydrogen Sulphides (H₂S) and seabed conditions,.

5) Emergency response plans for people, the environment and material assets,

6) Emergency response plans for the drilling of a relief well in case of a blowout,

7) Prognosis and programme for drilling or programme for well intervention,

8) Prior to well test the operator shall prepare a test programme where test zones, equipment and procedures are described,

9) A plan for the marine operations,

10) A workforce plan, crew change plans and plans for training of personnel, and

11) An action plan for safety and the working environment.

(2) The operator shall, based on actual data, prepare a specific test programme, where test zones, equipment and procedures are described. The final testing programme shall be approved by the Ministry of Petroleum (Oljumálaráðið).

§ 104. Information concerning an offshore installation's anticipated position, and the actual position of the installation at the commencement of the hydrocarbon activity, shall be notified to the Inspection and Rescue Service (Vaktar- og Bjargingartænastan).

§ 105. A daily drilling and well intervention report shall be sent to the Ministry of Petroleum in electronic form. The report shall, as a minimum, give information on:

1) Maritime operations,

2) Status of the drilling prognosis and drilling programme,

3) Weather issues,

4) Personnel onboard, and

5) Safety and emergency response exercises held.

§ 106. Three copies of the final well or well

intervention report shall be submitted, one of which shall be in electronic form. The report shall, at a minimum, provide information on:

- 1) Work programme, objectives and results,
- 2) Conclusions and recommendations,
- 3) Well description,
- 4) Deviations from original work programme and procedures,
- 5) Well test results,
- 6) Actual cost compared with estimated cost, and
- 7) Actual time compared with planned time.

§ 107. Reports on personnel injuries on offshore installations and ships during loading and unloading shall be sent to the Ministry of Petroleum no later than 9 days after the injury occurred. The report is to be prepared on the

Ministry of Petroleum format.

§ 108. Reports on safety and emergency response exercises involving the entire emergency response organisation shall, as a minimum, provide information on:

- 1) Scenario with objective and results, and
- 2) Conclusions and recommendations.

§ 109. The onshore authorities shall be notified immediately according to the table below. A written confirmation shall reach the same authorities within 2 hours after the incident occurred or was discovered.

(2) In case of doubt whether the incident falls within the table below, or if the situation may lead to serious or acute danger, the matter is to be reported immediately.

Notification Table

	MRCC TÓRSHAVN	OLJUMÁLARÁÐIÐ/MINISTRY OF PETROLEUM	DEPARTMENT OF OCCUPATIONAL AND PUBLIC HEALTH	THE CENTRAL HOSPITAL	THE CHIEF CONSTABLE	VÁGAR AIRPORT	THE FOOD AND ENVIRONMENTAL AGENCY	CHIEF MEDICAL OFFICER
Epidemics or food poisoning		?	?	?			?	?
Fatality and serious personal injury	?	?	?	?	?			
Explosions, fires and potential fires	?	?	?	?	?			
Acute pollution or danger of acute pollution	?	?			?		?	
Gas leaks	?	?	?	?			?	
Blowouts	?	?	?	?	?		?	
Helicopter accidents	?	?	?	?	?	?		
Events concerning radioactive sources	?	?	?				?	?
Other hazards and accident incidents	?	?	?		?			
Criminal actions		?			?			

§ 110. The supervising authorities shall be notified when the emergency is called off and before the operator resumes normal operation.

Part 7 Supervision, appeal, penalties, etc.

Chapter 14

Supervision, appeal, penalties, etc.

§ 111. The Ministry of Petroleum or other

supervising authorities shall supervise compliance with the provisions and

conditions in this Executive Order.

§ 112. Anyone transgressing the provisions in this Executive Order or provisions issued pursuant to this Executive Order, or failing to comply with orders or prohibitions laid down in this Executive Order or pursuant to this

Executive Order shall be punishable by a fine or simple detention.

(2) An employer, transgressing the provisions or orders or prohibitions in this Executive Order, or provisions, orders and prohibitions issued pursuant to this Executive Order, may be fined, even though the transgression is not attributable to the

employer's intentional act or gross negligence.

(3) Where the transgressor is a public limited company, private limited company, cooperative society or the like, the company or society as such may become liable to a fine. § **113**. This Executive Order enters into force 23. March 2001.

Eyðun Elttør (sign.)

Minister of Petroleum and the Environment

/ Herálvur Joensen (sign.)
Permanent Secretary