

**Executive Order No 113 of 20 November 2003**  
**on geological and geophysical matters in connection with approval of deep drilling**

Based on Sections 30, 32 and 45, subsection 3 of Parliamentary Act no 31 of 16 March 1998 on Hydrocarbon Activities, the Minister has decided:

*Drilling approval*

1. Applications for approval of drilling or well activities according to section 15 (1) in the Act on Hydrocarbon Activities and section 103 in Executive Order no 35 dated 8 March 2001 concerning Health, Safety and the Environment during the Exploration Phase of the Hydrocarbon Activities shall include a geological programme, which shall unambiguously state, how the surveys and sampling connected to the activities shall be carried out.
2. The application containing the geological programme shall, as a minimum, define the following:
  - 1) total depth of the well with information on the reference level and stratigraphic depth,
  - 2) predicted geological column including the age of and depth to the different strata,
  - 3) information on casing programme,
  - 4) interpreted seismic sections through the geological column at the well location and details of the interpretation,
  - 5) relevant well correlations,
  - 6) exploration target zones, including time and depth maps and relevant attribute maps of all objective horizons in a suitable scale for accurate representation,
  - 7) method, velocity functions and analysis which have been used for depth conversion, including estimated uncertainties in prognosed depth,
  - 8) logging programme with specifications on the various types of logs, including any formation test logs, which will be run in the different intervals,
  - 9) geological sampling programme, including conventional coring programme and programme for sampling of sidewall cores,
  - 10) assessment of potential overpressure in the well,
  - 11) site specific hazard and risk, e.g. shallow and poisonous gas, geotechnical problems, bottom conditions and obstacles on the seafloor, shall be included and
  - 12) any intention by the licensee to test produce possible hydrocarbons from the well.
3. Before test production can be initiated, a separate application shall be submitted to the Ministry of Petroleum for approval.
  - (2) This application shall describe in detail the test production programme, e.g. concerning the test intervals, equipment, work procedures, planned measurements and sampling and other additional matters of relevance to the processing of the application.

*Measurements and sampling*

4. While drilling with returns to surface, cuttings must be taken from the drill mud and stored.
  - (2) The sample interval shall not exceed 10 metres. In observed hydrocarbon containing zones, the sample interval must not exceed 3 metres where conventional cores are not taken.

**5.** Rock type and age analysis shall be performed for all formations drilled, if necessary with sidewall cores.

(2) Reservoir and source property analysis shall be performed for all relevant formations, if necessary by cutting cores.

(3) In exploration wells, at least one conventional core shall be collected.

**6.** Logs shall be taken in all welltracks in order to obtain information on,

1) geological parameters such as lithological and stratigraphic properties

2) geophysical parameters such as acoustic properties and seismic response and

3) hydrocarbon related parameters such as pore volume and water saturation.

(2) It shall be possible to accurately depth correlate the logs.

**7.** In zones where hydrocarbon and production potential will be assessed, formation test logs with regard to pressure gradient and liquid type shall be carried out, and liquid samples shall be taken for analysis, and remaining liquids shall be stored.

**8.** Liquid samples shall be taken and stored in connection with test production.

**9.** Well velocity surveys shall be performed in an attempt to accurately determine the seismic velocity in the entire drilled section, and additionally a vertical seismic profile shall be performed at total depth.

*Supervision, penalties etc.*

**10.** In pursuance of Section 32 of the Act the Ministry of Petroleum shall oversee that the requirements and prerequisites of this Executive Order are complied with.

**11.** Any party failing to comply with Sections 2-9 of this Executive Order shall be punishable by a fine.

(2) 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 in pursuance of Section 45 (4) of the Act.

**12.** This Executive Order shall take effect the day after it has been published.

Ministry of Petroleum  
20 November 2003

Eyðun Elttør  
Minister of Petroleum

Herálvur Joensen  
Permanent Secretary