REGULATIONS RELATING TO
CONDUCTING PETROLEUM ACTIVITIES
(THE ACTIVITIES REGULATIONS)

(Last amended 19 December 2022)

Petroleum Safety Authority Norway

Norwegian Environment Agency

Norwegian Directorate of Health

Norwegian Food Safety Authority

Norwegian Radiation and Nuclear Safety Authority

PETROLEUM SAFETY AUTHORITY
NORWAY

Regulations relating to conducting petroleum activities (the activities regulations)

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Stipulated by the Petroleum Safety Authority Norway on 29 April 2010 in pursuance of Section 10-18 of the Act of 29 November 1996 No. 72 relating to the petroleum activities, Sections 1-3, 2-2, 3-2, 3-3, 3-5, 4-2, 4-3, 4-5 and 4-6 of the Act of 17 June 2005 No. 62 relating to working environment, working hours and job protection, etc. and Section 68, first subsection litera c of the Regulations of 12 February 2010 No. 158 relating to health, safety and the environment in the petroleum activities, etc. Stipulated by the Norwegian Environment Agency on 29 April 2010 in pursuance of Sections 9, 40 and 42 of the Act of 13 March 1981 No. 6 relating to protection against pollution and relating to waste and Section 4 of the Act of 11 June 1976 No. 79 relating to control of products and consumer services and Section 68, first subsection litera c of the Regulations of 12 February 2010 No. 158 relating to health, safety and the environment in the petroleum activities, etc. Stipulated by the Norwegian Directorate of Health on 29 April 2010 in pursuance of Section 16, second subsection and Section 76, final subsection of the Act of 2 July 1999 No. 64 relating to health personnel, Section 1-2, third subsection and Section 8-4 of the Act of 5 August 1994 No. 55 relating to protection against contagious illnesses, and Section 68, first subsection litera c of the Regulations of 12 February 2010 No. 158 relating to health, safety and the environment in the petroleum activities, etc. Stipulated by the Norwegian Food Safety Authority on 29 April 2010 in pursuance of Sections 16 and 23 of the Act of 19 December 2003 No. 124 relating to food production and food safety, etc. and Section 68, first subsection litera c of the Regulations of 12 February 2010 No. 158 relating to health, safety and the environment in the petroleum activities, etc. Amended 28 June 2012. Amended 20 December 2012. Amended 23 December 2013. Amended 16 December 2014. Amended 18 December 2015. Amended 15 December 2016. Amended 18 December 2017. Amended 25 January 2019. Amended 18 December 2019. Amended 16 December 2020. Last amended 16 December 2021.

CHAPTER I
Introductory provisions

Section 1
Scope

These regulations apply to offshore petroleum activities, with exceptions as mentioned in Section 4 of the Framework Regulations.

Requirements in these regulations also apply to activities related to facilities and equipment necessary to carry out manned underwater operations from vessels.

Section 2
Responsibilities

Section 7 of the Framework Regulations applies correspondingly to these regulations.

Section 3
Definitions

Definitions as mentioned in Section 6 of the Framework Regulations apply correspondingly to these regulations.

CHAPTER II
Arrangements pursuant to the working environment act

Section 4
Coordinating working environment committees for fields, and joint, local working environment committees for mobile facilities

A coordinating working environment committee shall be established for each field, or, where all parties are in agreement, a coordinating working environment committee that covers several fields, where these have shared management and operations organisations, shared contractors and contracts, and where considerable personnel groups work on several of these fields. A joint, local working environment committee shall also be established for each individual mobile facility. The committees shall coordinate and process matters concerning safety and the environment, cf. Section 34, second subsection of the Framework Regulations.

Employer and employee representatives from the various main activity areas on the field or on the mobile facility shall participate in the coordinating or the joint, local working environment committee, respectively. For mobile facilities, a representative of the operator shall participate, except during transit.

When a mobile facility is part of the petroleum activities on a field, the operator shall ensure coordination between the joint, local working environment committee and the coordinating working environment committee.

Section 5
Occupational health service

The employer shall ensure that the enterprise has or is affiliated with an approved occupational health service with competence adapted to the enterprise's risk factors.

The operator or the party responsible for operating a facility, shall ensure cooperation between its occupational health service and similar personnel working for the other employers.

Section 6
Medical examinations for employees

The employer shall ensure the employees are offered regular health examinations to reveal long-term effects of working environment factors.

Employees who have undergone biological examinations shall have access to the results that concern to what extent he/she has been exposed to hazardous conditions.

The employer shall also ensure the employees are offered a health examination before they are assigned work that can entail particular health risks, so that preventive measures can be implemented.

Employees who have been subjected to hazardous exposure in their work, shall be offered special health examinations if they are still employed, so that any corrective measures can be implemented.

Section 7
Registration of working hours

The employer shall create a system to register and follow up working hours for all employees in the individual enterprises. The same applies to personnel in management or particularly independent positions as mentioned in Section 10-12, first and second subsection of the Working Environment Act, when this position is important as regards safety.

When work is carried out on several work sites for the same employer, this employer shall register the total working hours.

CHAPTER III
Health related matters

Section 8
The health service

The operator or the party responsible for operating a facility shall ensure that anyone staying on the facility has access to professionally competent health services, cf. Section 16 of the Framework Regulations.

A physician shall have the professional responsibility for the health service.

The necessary number of nurses shall at all times be present on the facility to ensure prudent safeguarding of the health service's tasks.

The enterprise shall employ or have on-call other health personnel to the extent necessary.

The health service shall take a separate and independent position in health-related matters.

For storage vessels with maritime crew, there is an opening to organize the health service in accordance with requirements in the Norwegian Maritime Authority's regulations. The operator shall demonstrate that the overall emergency preparedness is prudently dimensioned and organized.

Section 9
The health service's tasks

The health service shall

a) promote health and contribute to preventing illness and injury by

   i) gathering and communicating information on conditions in the enterprise that can affect the general health,

   ii) ensuring prudent hygienic conditions,

   iii) implementing preventive measures within its area of responsibility,

b) carry out diagnostics and treatment in connection with illness and injury, including organising first aid in the event of accidents,

c) contribute to establishing the health emergency preparedness as part of the enterprise's total emergency preparedness, including transport of sick and injured personnel.

Section 10
Physician on-call

The health service shall have a physician on-call at all times, who can be summoned to the facility on the shortest possible notice.

Section 11
Medicines and medical equipment

The Regulations relating to medicines handling for enterprises and health personnel that provide medical treatment (in Norwegian only) apply to the handling of medicines.

Medicines and medical equipment shall be adapted to the need during operation of the facility and in the event of emergency situations. Medicines and medical equipment shall be regularly checked and stocks replenished.

Section 12
Communicable diseases

The physician responsible for the health service on the facility shall have corresponding responsibility concerning communicable diseases as a district medical officer according to the Contagious Illness Protection Act (in Norwegian only) with associated regulations.

Section 13
Food and drinking water

The food on the facility shall at all times be of such quantity and quality to ensure that the hygienic and nutritional needs of the personnel are satisfied.

The provisions in the Drinking Water Regulations (in Norwegian only) apply to the water supply and drinking water in the petroleum activities.

Section 14
Cleaning

Cleaning shall be planned and conducted such that the indoor environment is hygienic and aesthetically satisfactory at all times.

CHAPTER IV
Preliminary surveys and installation

Section 15
Preliminary surveys

Before facilities are placed, the necessary preliminary surveys ensuring prudent installation, use and disposal of the facilities shall be carried out.

Section 16
Installation and commissioning

During installation of facilities and parts of these, it shall be ensured that the loads they are exposed to, do not exceed the loads mentioned in Section 11 of the Facilities Regulations.

Upon completion of facilities, it shall be ensured that they fulfil the requirements in the Facilities Regulations, cf. also Section 23 of the Framework Regulations and Section 5 of the Management Regulations. The technical condition of facilities, systems and equipment shall be maintained until the facilities, systems and equipment are put into service.

CHAPTER V
Transport and stay

Section 17
Transport

The operator shall ensure that people and supplies can be transported safely to, from and between facilities and vessels during placement, installation and use, and for the chosen disposal alternative.

Transport shall be coordinated with emergency preparedness, as mentioned in Section 73.

Section 18
Stay on facilities

Only those who work on a facility, have access to it. Others shall have permission from the operator or a party authorised by the operator.

The operator shall ensure that a comprehensive overview is available at all times of everyone staying on or on their way to or from a facility or vessel participating in the petroleum activities.

Everyone staying on such facilities or vessels, shall be provided with sufficient information on applicable rules for the stay, and compliance shall be ensured.

Based on safety considerations, the Petroleum Safety Authority Norway can, through administrative decision, determine the total number of people allowed to stay on a facility. In special cases, the Petroleum Safety Authority Norway can prohibit visits.

Section 19
Accommodation and cabin sharing

Cabin sharing is not permitted unless the conditions of second subsection are satisfied. Cabin sharing means that two persons have the use of the same single cabin for 24 hours, but in such a way that both of them sleep alone.

Following discussions with the employee representatives, cabin sharing can be used in the following cases:

a) restoring of physical barriers and in other acute situations

b) turnaround/revision stop

c) hook-up and start-up

In the event of cabin sharing as given in second subsection litera b and c, the total individual strain shall be taken into account and, if necessary, use of cabin sharing shall be spread so that it comprises all employees accommodated on the facility at the time in question. Use of cabin sharing shall be compensated for.

In the event of a decision regarding the duration and scope of such accommodation, cf. also Section 11 of the Management Regulations, the consequences shall be clarified and compensating measures shall be implemented to ensure safety and necessary rest and restitution. Which compensating measures to implement, shall be discussed with the employee representatives.

CHAPTER VI
Operational prerequisites for start-up and use

Section 20
Start-up and operation of facilities

Before facilities and parts of these are started up for the first time or after technical modifications, the commissioning as mentioned in Section 16, shall be carried out.

During start-up as mentioned in the first subsection, and during operation,

a) the management system with associated processes, resources and operations organisation shall be established,

b) governing documents, including technical operations documents, shall be available in an updated version and the operations personnel shall be familiar with them,

c) systems for employee participation shall be established, cf. Section 13 of the Framework Regulations,

d) the health service shall be in accordance with Section 8 and

e) the occupational health service shall be in accordance with Section 5.

Section 21
Competence

The responsible party shall ensure that the personnel at all times have the competence necessary to carry out the activities in accordance with the health, safety and environment legislation. In addition, the personnel shall be able to handle hazard and accident situations, cf. Section 14 of the Management Regulations and Section 23 of these regulations.

Personnel who will lead or carry out bell diving or surface-oriented diving, shall have a valid certificate. The Petroleum Safety Authority Norway appoints suitable enterprises to train personnel and suitable enterprises to issue certificates on its behalf. Payment can be charged for issuance of certificates.

Section 22
Safety and working environment training pursuant to the Working Environment Act

Managers and others with responsibility for decisions that affect the working environment, shall be provided the same training as members of working environment committees and safety delegates.

The individual employee and manager shall be provided with training in working environment factors of significance for conducting their work.

Managers with direct responsibility for work with radioactive sources shall have completed theoretical and practical radiation protection training.

The employees shall be provided necessary training in health and safety matters, and the training shall take place during working hours. Criteria shall be set for what constitutes necessary training.

Training as mentioned in the fourth subsection, shall be provided upon employment, transfer or change of work tasks, introduction of new work equipment or changes to the equipment and upon introduction of new technology that applies to the individual's workplace or work tasks.

The training shall be adapted to the changed or new risk in the enterprise, and repeated when necessary.

Section 23
Training and drills

The responsible party shall ensure that necessary training and necessary drills are conducted, so that the personnel are always able to handle operational disturbances and hazard and accident situations in an effective manner.

Through drills, the operator shall verify that all the performance requirements to emergency preparedness against acute pollution are fulfilled, and that the emergency preparedness resources that are intended to be used, are operative and available. The verification shall be completed prior to starting the planned activity. The documentation shall be made available to the authorities upon request.

Section 24
Procedures

The responsible party shall set criteria for when procedures shall be used to prevent faults and hazard and accident situations.

It shall be ensured that procedures are established and used in such a way as to fulfil their intended functions.

Section 25
Use of facilities

Use of facilities and parts of these shall be in accordance with requirements stipulated in and in pursuance of the health, safety and environment legislation and any additional limitations that follow from fabrication, installation and commissioning. The use shall at all times be in accordance with the facility's technical condition and the assumptions for use that form the basis for prudent activities.

When setting restrictions for the activity level on the facility, the maintenance status shall also be considered.

Section 26
Safety systems

The measures and restrictions that are necessary for maintaining the safety systems' barrier functions in the event of overbridging, disconnection or other impairment, shall be set in advance. The compensatory measures shall be implemented as rapidly as possible when such impairment occurs.

The status of all safety systems shall be known by and available for relevant personnel at all times.

Section 27
Critical activities

It shall be ensured that critical activities are carried out within the operational restrictions set during the engineering phase and in the risk analyses as mentioned in Section 16 of the Management Regulations, cf. also Section 30 of these regulations.

Section 28
Simultaneous activities

The responsible party shall define which activities that, in combination with other activities, shall be considered simultaneous activities.

When conducting simultaneous activities that contribute to an unacceptable increase in risk, the necessary measures shall be implemented, cf. Section 9 of the Management Regulations.

CHAPTER VII
Planning and execution

Section 29
Planning

When scheduling activities on the individual facility, the responsible party shall ensure that important risk contributors are kept under control, both individually and overall, cf. also Section 12 of the Management Regulations.

The planning shall consider the status of important risk contributors and changes in risk evident from the risk indicators, cf. Section 10 of the Management Regulations.

Section 29a
Storage, handling and use of explosives

It shall be ensured that potentially dangerous explosives shall be able to be simply handled and removed in the event of a hazard and accident situation.

Explosives shall be secured such that they do not go off unintentionally during storage, handling and use.

Section 30
Safety-clearance of activities

Planned activities shall be cleared as regards safety before they are carried out. Which conditions shall be met, shall be evident from the clearance, including which measures shall be implemented before, during and after the work so that those participating in or who may be affected by the activity, are not injured, and so that the likelihood of mistakes that can lead to hazard and accident situations is reduced.

Section 31
Monitoring and control

The responsible party shall ensure that matters of significance for prudent execution of the activities as regards health and safety, are monitored and kept under control at all times, cf. Section 19 of the Management Regulations.

Activities in connection with the flight weather service shall be carried out pursuant to Sections 37 and 38 of the Regulations on helicopter aviation - use of offshore helicopter decks (in Norwegian only), and in the Civil Aviation Authority's Regulations relating to flight weather service (in Norwegian only).

Personnel with control and monitoring functions shall at all times be able to efficiently collect and process information on such conditions, cf. also Section 14 of the Management Regulations.

Section 32
Transfer of information at shift and crew changes

In connection with shift and crew changes, the responsible party shall ensure necessary transfer of information on the status of safety systems and ongoing work, as well as other information of significance for health, safety and the environment during the execution of activities, cf. Section 15 of the Management Regulations.

CHAPTER VIII
Working environment factors

Section 33
Organisation of work

The employer shall ensure that the work is organised so as to avoid hazardous exposure and unfortunate physical and psychological strains for the individual employee, and to reduce the likelihood of mistakes that can lead to hazard and accident situations.

The organisation shall be based on an individual and overall evaluation of acute and long-term effects from the various working environment factors, and on an evaluation of how technology and organisation affect the opportunity to work safely.

The work shall be organised with sufficient consideration for the employee's opportunities, limitations and need for a meaningful work situation, cf. Section 35.

The work shall be planned such that as much work as possible is carried out during the daytime, and such that the employees are ensured the necessary rest and restitution.

The employer shall reduce unfortunate workloads and risks of injury and accidents based on conducted analyses, mapping and gathered information on the employees' own experience of work-related risk and work load conditions.

Section 34
Ergonomic aspects

The employer shall ensure that the work is organised such that the employees are not exposed to unfortunate workloads as a result of manual handling, working position, repetitive movements, work intensity, etc.

Guidelines *Interpretations*

Section 35
Psychosocial aspects

The employers shall ensure a good psychosocial working environment by considering conditions that can influence the employees' health, safety and welfare. Special emphasis shall be accorded the interaction between requirements for work performance, the employees' perception of control over their own work and social support in the working environment.

Section 36
Chemical health hazard

The employer shall ensure that hazardous chemical exposure during storage, use, handling and disposal of chemicals, and during operations and processes that produce chemical components, is avoided.

The action values and threshold values in Regulations relating to action values and threshold values (in Norwegian only) shall be corrected by means of a safety factor of 0.6 for a working period of twelve hours, and for persons found to be working under heightened pressure, a safety factor of 0.2 shall apply, except for CO and CO2.

Section 37
Radiation

The employer shall ensure that hazardous exposure during storage, use, handling and disposal of radioactive sources is avoided.

Section 38
Noise

The employer shall ensure that no employees are exposed to hazardous noise. Limit values for hazardous noise are for daily noise exposure L_{EX12h} = 83 dB and for peak sound pressure level $L_{pC,peak}$ = 130 dB.

The exposure action value is L_{EX12h} = 80 dB(A) and L_{pCpeak} = 130 dBC. If the action value is exceeded, risk-reducing measures shall be considered.

Qualified risk assessments shall be carried out, cf. Section 18 of the Management Regulations. These shall cover all aspects of significance for clarifying health and safety hazards as regards exposure to noise.

The work shall be planned and conducted in such a manner that the employees are protected against noise and such that the noise load is reduced to the extent possible. Measures shall be implemented to the extent possible as regards the technical development, or in some other manner limiting the noise exposure in duration and intensity. This also entails that work shall be organised with sufficient noise-free periods.

The employer shall ensure that employees and safety delegates receive continuous information and training on relevant risks in connection with noise if the employees are exposed to noise equal to or exceeding L_{EX12h} = 80 dB or $L_{pC,peak}$ = 130 dB.

Section 39
Vibrations

The employer shall ensure that no employees are exposed to hazardous vibrations.

Section 40
Outdoor work

The responsible party shall set criteria for which climatic conditions require protective measures during outdoor work, and under which conditions such work shall be limited or halted.

Section 41
Safety signs and signalling in the workplace

(Repealed by Regulations 20 December 2012)

Section 42
Personal protective equipment

(Repealed by Regulations 20 December 2012)

Section 43
Use of work equipment

(Repealed by Regulations 20 December 2012)

Section 44
Risk information during execution of work

It shall be ensured that the employees are provided with information on health risk and the risk of accidents during the work to be performed.

The results of assessments, analyses, measurements, mappings of causes of work-related illnesses, investigations of work accidents and near-accidents, and the importance of these results for work execution, shall be available.

The employees and their representatives shall familiarise themselves with this information.

CHAPTER IX
Maintenance

Section 45
Maintenance

The responsible party shall ensure that facilities or parts thereof are maintained, so that they are capable of carrying out their required functions in all phases of their lifetime.

Section 46
Classification

Facilities' systems and equipment shall be classified as regards the health, safety and environment consequences of potential functional failures.

For functional faults that can lead to serious consequences, the responsible party shall identify the various failure modes with associated failure causes and failure mechanisms, and predict the likelihood of failure for the individual failure mode.

The classification shall be used as a basis in choosing maintenance activities and maintenance frequencies, in prioritising between different maintenance activities and in evaluating the need for spare parts.

Section 47
Maintenance programme

Failure modes that may constitute a health, safety or environment risk, cf. Section 46, shall be systematically prevented through a maintenance programme.

This programme shall include activities for monitoring performance and technical condition, which ensure identification and correction of failure modes that are under development or have occurred.

The programme shall also contain activities for monitoring and control of failure mechanisms that can lead to such failure modes.

Section 48
Planning and prioritisation

An overall plan shall be prepared for conducting the maintenance programme and corrective maintenance activities, cf. Section 12 of the Management Regulations.

Criteria shall be available for setting priorities with associated deadlines for carrying out the individual maintenance activities. The criteria shall consider the classification as mentioned in Section 46.

Section 49
Maintenance effectiveness

The maintenance effectiveness shall be systematically evaluated based on registered performance and technical condition data for facilities or parts thereof.

The evaluation shall be used for continuous improvement of the maintenance programme, cf. Section 23 of the Management Regulations.

Section 50
Special requirements for technical condition monitoring of structures, maritime systems and pipeline systems

Technical monitoring of new structures and maritime systems shall be carried out during their first year of service.

For new types of load-bearing structures, data shall be collected during two winter seasons to compare them with the design calculations.

When using facilities beyond their original design life, instrumentation of relevant structure sections shall be considered so as to measure any ageing effects.

When facilities are disposed of, the operator shall carry out studies of the structure's condition. The results shall be used to assess the safety of similar facilities.

On pipeline systems where failure modes may constitute an environmental or safety hazard, cf. Section 46, inspections shall be carried out to monitor potential failure modes that may affect the integrity of the pipeline system.

The first inspection shall be performed after the maintenance programme as mentioned in Section 47. The timing shall be based on the risk assessments performed, cf. Section 46.

Section 51
Specific requirements for testing of blowout preventer and other pressure control equipment

Blowout preventers with control functions and other pressure control equipment shall be maintained, including pressure and function testing, cf. Sections 45 and 47.

Blowout preventers with control functions and other pressure control equipment shall undergo a complete overhaul and recertification every five years.

CHAPTER X
Monitoring the external environment

Section 52
General requirements to environmental monitoring

The operator shall monitor the external environment, cf. the Framework Regulations Section 48.

The monitoring shall be adapted to the existing pollution risk, be able to prove and map pollution of the external environment, and indicate development trends in the environmental condition.

The environmental monitoring of pollution from regular emissions and discharges shall include both benthic habitats (the sediments, soft and hard sea bed fauna) and the water column, and shall be

performed and reported in accordance with the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*.

The operators shall cooperate on monitoring.

Personnel with monitoring functions shall at all times be able to efficiently gather and process information from monitoring.

The operators shall, as part of the external monitoring, contribute to developing new methods for monitoring sediments, benthic fauna and water column.

The Norwegian Environment Agency and the Norwegian Radiation and Nuclear Safety Authority can, in special cases, set additional requirements for monitoring beyond the prevailing guidelines.

Section 53
Baseline surveys

To map the environmental status, the operator shall carry out baseline surveys

a) before exploration drilling in new and previously unsurveyed exploration areas,

b) before exploration drilling in areas where there are proven vulnerable environmental values (species and habitats), or where their existence is likely,

c) before production drilling.

Baseline surveys of the sediments and relevant fauna elements on the seabed shall be performed and reported in accordance with the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*. A baseline survey is valid for six years unless the Norwegian Environment Agency decides otherwise as far as duration is concerned.

Section 54
Environmental monitoring of benthic habitats

Plans for environmental monitoring of benthic habitats (sediments, soft and hard sea bed fauna) shall be prepared in accordance with the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*.

Studies in the individual region shall, as a rule, be carried out every three years. The surveys alternate between regions. The scope of monitoring shall be related to the shelf activity in the individual regions. Monitoring of new activity is in addition to, and shall be adapted to, existing monitoring.

The samples from the regional and field-specific stations shall be collected on the same trip. The regional stations shall describe the general background levels in the area for the examined components, and function as references to an expected normal condition. The field-specific stations shall provide information on the condition surrounding the individual facilities in the regions.

Studies shall provide information on both the vertical and horizontal spread of relevant parameters.

The Norwegian Environment Agency and the Norwegian Radiation and Nuclear Safety Authority can, in special cases, order other types of environmental surveys, and studies in other parts of the influence area, than those described in the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*.

Section 55
Environmental monitoring of the water column

Plans for environmental monitoring of the water column shall be prepared in accordance with the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*, and shall be submitted to the Norwegian Environment Agency by 1 April of the year the monitoring will be carried out.

The water column monitoring shall consist of monitoring in the field. The scope of the monitoring shall, as a minimum, include fish and mussel, and shall be carried out every three years. The monitoring shall document whether marine organisms from Norwegian waters are affected by pollution from the petroleum activities.

The period between two field-monitoring activities shall be used for further development and qualification of methods for future water column monitoring.

The Norwegian Environment Agency and the Norwegian Radiation and Nuclear Safety Authority can, in special cases, order other types of environmental surveys, and studies in other parts of the influence area, than those described in the *Guidelines for environmental monitoring of the petroleum activities offshore (M-300) (in Norwegian only)*.

Section 56
Follow-up of monitoring results

If the external environment monitoring shows significant deviations from the expected condition or development, the operator shall take measures to find the reason for the deviations.

Section 57
Detection and mapping of acute pollution

The operator shall as soon as possible detect acute pollution, cf. the Framework Regulations Section 48 and the Management Regulations Section 29 first subsection litera e.

The operator shall have a system for detecting acute pollution. The system shall be as independent as possible of visibility, light and weather conditions and shall consist of different methods that are generally suitable for detecting relevant types and amounts of acute pollution that may arise from the facilities. The system shall also provide sufficient information about minor leakages that may represent significant pollution over time.

The area around the facility shall be monitored regularly with a view to detection of acute pollution. The need for continuous monitoring shall be considered.

Acute pollution that has been detected, shall be mapped, among other things, with regard to propagation, drifting direction, amount of discharge and properties. Mapping shall be started as soon as possible after the acute pollution has been detected. Thickness distribution of oil flakes on the sea surface shall be mapped.

The operator shall cooperate with operators in other production licenses to ensure that acute pollution is detected and mapped, cf. Section 78 of these regulations.

The detection and mapping after detection system shall provide adequate information on the amount of discharge and dispersion to enable decisions to be made on the implementation of necessary measures to limit potential damage to the external environment, cf. the Framework Regulations Section 48.

The Environment Agency can set more explicit requirements for detection and mapping of acute pollution.

Section 58
Environmental surveys in the event of acute pollution

Environmental surveys shall be carried out in the event of acute pollution to identify and describe damage to vulnerable environmental values in the open sea, along the coast and at the shoreline. The surveys shall be initiated as soon as possible and no later than 48 hours after the pollution was detected. They shall build on results from the mapping of vulnerable environmental values that has been carried out in accordance with Section 53 and the data basis from the environmental risk analyses, cf. Section 17 of the Management Regulations. The effect of mechanical clean-up and/or use of dispersants and shoreline cleaning agents shall be investigated, both with regard to the efficacy of the combatting method and the effect on environmental values.

Section 59
Characterisation of oil and condensate

If oil or condensate is proven in connection with exploration activity, the oil or condensate shall be characterised as soon as possible. The results of the characterisation shall in case of future activities be included in the basis for assessment of environmental risk associated with acute pollution and in the decision basis for risk reduction, including dimensioning and development of emergency preparedness.

The characterisation shall cover physical and chemical properties, including weathering and fate in a marine environment under relevant external conditions.

Oil and condensate that can occur as acute pollution, shall be measured regularly as regards physical and chemical parameters. If such measurements show significant changes, a new characterisation shall be performed.

Section 59a
Analysis of radioactivity in formation water

If, in connection with the testing of new discoveries, available samples of the formation water are available, these water samples shall be analyzed for the content of naturally occurring radioactive substances. If samples of the formation water are not taken, samples of produced water must be taken for the analysis of the content of naturally occurring radioactive substances as soon as possible after produced water from the field is available.

CHAPTER XI
Emissions and discharges to the external environment etc.

Section 60
Discharge of produced water

Produced water shall be cleaned prior to discharge to sea.

The oil content in produced water discharged to sea, shall be as low as possible, cf. Chapter II of the Framework Regulations and Sections 7 and 8 of the Management Regulations. In any event, the oil content shall not exceed 30 mg oil per litre of water as a weighted average for one calendar month.

On facilities that discharge produced water, the operator shall perform environmental risk assessments of the discharges. These shall be performed as soon as possible after produced water is available. New risk assessments shall be performed in case of significant changes in the discharge or in any event minimum every five years. The Norwegian Environment Agency can set more explicit requirements to implementation and frequency of environmental risk assessments and discharge of produced water.

Documentation associated with performed risk assessments shall be made available to the Norwegian Environment Agency upon request.

Water treatment systems shall be designed and operated such that the environmental strain from discharges to sea will be as low as possible also if the discharge limitations, cf. the second subsection, can be met with reduced treatment effect. The operator shall establish and maintain a best practice for operating and maintaining the processing system, comprising treatment units incorporated in the system on the individual facility.

The operator shall regularly assess possible technical solutions that can reduce the environmental strain from discharges of oily water. Documentation associated with such assessments shall be made available to the Norwegian Environment Agency upon request.

The operator shall take appropriate measures to limit potential damage to the external environment from oil pollution in cases where discharge of produced water involves visible oil on the sea surface. The obligation under this subsection applies to measures that are in reasonable proportion to the damage and inconvenience to be avoided.

The Norwegian Environment Agency and the Norwegian Radiation and Nuclear Safety Authority can set additional requirements regarding discharges of produced water.

Section 60a
Discharge of drainage water and other oily water

Oily drainage water and other oily water may be discharged to sea subsequent to treatment.

The oil content in water as mentioned in the first subsection and discharged to sea, shall be as low as possible, cf. Chapter II of the Framework Regulations and Sections 7 and 8 of the Management Regulations. In any event, the oil content shall not exceed 30 mg oil per litre of water as a weighted average for one calendar month.

Treatment systems shall be operated such that the environmental strain from discharges to sea will be as low as possible

Chemicals that accompany water as mentioned in the first subsection to sea after cleaning, must be covered by a discharge permit, cf. Section 66, first subsection. Adding chemical residue or other waste to oily water that is discharged to sea pursuant to this section, is not allowed.

Oily drainage water and other oily water that are not handled in accordance with the first to fourth subsections or injected in accordance with the permit, cf. Section 71, shall be collected and sent as waste to a legal waste facility. It is not allowed to add drainage water and other oily water to the production stream ashore.

The operator shall carry out comprehensive assessments to ensure that the best environmental solution for handling drainage water and other oily water is selected.

The Norwegian Environment Agency can set additional requirements regarding discharges of drainage water and other oily water.

Section 60b
Discharge of oily displacement water

Oily displacement water may be discharged to sea if the oil content does not exceed 30 mg oil per litre of water.

Section 61
Emissions to air

The operator shall have permission for emissions according to Chapter 3 of the Pollution Control Act (in Norwegian only).

Section 61a
Energy management

The operator shall have an energy management system for continuous, systematic and targeted assessment of measures that can be implemented to achieve the most energy-efficient production and operation.

The energy management system shall comply with the principles and methods specified in the Norwegian standard for energy management, NS ISO 50001:2018. The energy management system shall include a flaring strategy.

Section 61b
Energy efficiency

The operator shall assess and, if technically feasible and not incurring unreasonable costs, take measures to reduce energy consumption by reducing energy demand, optimizing own energy production and increasing utilization of surplus energy.

Section 62
Ecotoxicological testing of chemicals

The operator shall see to that chemicals that will be used in or discharged from the petroleum activities on the continental shelf, are tested as regards inherent ecotoxicological properties. Ecotoxicological testing of chemicals shall be performed at laboratories that are approved in accordance with OECD's principles for good laboratory practice.

Chemicals shall be tested for the individual organic substances' biodegradability in accordance with OECD's guidelines for testing of chemicals, test number 306. If this test cannot be used because the substance is insoluble in water, the marine BODIS test shall be carried out in accordance with ISO 10708:1997, with modifications as described in "Biodegradability of chemical substances in seawater – Results of the four OSPARCOM ring tests." On application, the Norwegian Environment Agency may accept the use of alternative test methods for substances that are known to be toxic to microorganisms, if the methods are standardised.

Chemicals shall be tested for the individual organic substances' potential for bioaccumulation, in accordance with OECD's guidelines for testing of chemicals, test number 117 or test number 107. This applies to substances with molecular weight lower than 700 g/mol only. For substances that cannot be tested according to standardised methods, the bioaccumulation potential shall be calculated based on modelling or professional evaluations, which shall be documented and described in HOCNF, cf. sixth subsection.

Chemicals shall be tested for the individual organic or inorganic substances' acute toxicity with the following tests:

a) growth inhibition on *Skeletonema costatum* or *Phaeodactylum tricornutum* in compliance with ISO 10253:2006,

b) acute lethal toxicity on *Acartia tonsa* or *Tisbe battaglia* in compliance with ISO 14669:1999,

c) acute toxicity on juvenile of *Scophtalmus maximus* or juvenile of *Cyprinodon variegatus* in compliance with Part B in OSPAR's protocol for testing of chemicals used in the offshore petroleum industry. This does not apply if the substance is inorganic and has a EC50 or LC50 less than or equal to 10 mg/l on the other test organisms,

d) toxicity test on *Corophium* sp. in compliance with OSPAR's protocol for testing of chemicals used in the offshore petroleum industry, if the substance is a sinker, has a Koc > 1000, has a log (Pow) >4, on in any other way are known to adsorb to particles or end up in the sediments, or contain surfactants.

Toxicity tests performed on freshwater organisms may be accepted if results from marine tests are not available and if performed by standardized methods.

OSPAR Harmonised Offshore Chemical Notification Format (HOCNF) shall be available for all chemicals used or discharged. Results from the ecotoxicological tests shall be included in HOCNF part 2.

The requirements on ecotoxicological testing and documentation does not apply for:

a) lubricants which are not discharged to sea, including those delivered in spray cans,

b) chemicals in closed systems which are not discharged to sea, and with usage of less than 3000 kg per year,

c) laboratory chemicals,

d) dispersants and shoreline cleaning agents that are used to combat acute pollution,

e) new chemicals to be field tested, cf. Section 66,

f) fuel,

g) paint and other surface coatings, including those delivered in spray cans,

h) gas tracers,

i) hypochlorite produced on the facility

The requirements for testing and ecotoxicological documentation in HOCNF part 2, does not apply to

a) chemicals in green category, cf. Section 63,

b) the additive packages in chemicals in closed systems that is not discharged to sea with a usage above 3000 kg,

c) the additive packages in sealing oils in sea water lift pumps with discharge to sea,

d) impurities,

e) potassium hydroxide, sodium hydroxide, hydrochloric acid, sulfuric acid, nitric acid and phosphoric acid,

f) polymers that meet the criteria set out in the OSPAR Guidelines for Completing the Harmonized Offshore Chemical Notification Format (HOCNF) (Reference Number: 2012/05),

g) tax-exempt diesel with colour additives, to be used as a chemical.

The Norwegian Environment Agency may require testing and ecotoxicological documentation in the form of HOCNF Part 2 for polymers as mentioned in litera f when necessary to assess the properties of the substance.

Section 63
Categorisation of substances and chemicals

The operator shall categorise substances and chemicals that are subject to requirements to documentation in accordance with Section 62, fifth subsection. The requirement does not apply to impurities in chemicals.

The black category comprises the following:

a) substances on the Priority List,

b) substances on OSPAR's Priority List,

c) substances that are listed on the candidate list in REACH due to their environmental properties,

d) substances that both have BOD28 less than 20 percent and bioaccumulation potential Log Pow higher than or equal to 4,5, cf. Section 62,

e) substances that both have BOD28 less than 20 percent, toxicity LC50 or EC50 less than or equal to 10 mg/l, cf. Section 62,

f) substances which are mutagenic, Muta 1A and 1B, or reprotoxic, Repr 1A and 1B.

g) Additive packages that is exempted the requirement in Section 62 sixth subsection, and is not tested.

The red category comprises substances not included in the black category, but fulfilling one or several of the following criteria:

a) inorganic substances with acute toxicity, EC50 or LC50 less than or equal to 1 mg/l, cf. Section 62,

b) organic substances with BOD28 less than 20 percent, cf. Section 62,

c) organic substances that meet two out of three of the following criteria, cf. Section 62:

   - BOD28 less than 60 percent
   - Log P_{ow} greater than or equal to 3, and molecular weight less than 700
   - Acute toxicity, LC50 or EC50, less than or equal to 10 mg/l,

d) polymers which have not undergone ecotoxicological tests, cf. Section 62.

The yellow category comprises substances that are not included in the black, red or green category. Strong acids and bases and tax-exempt diesel with added colour additives, which are exempted from the requirement for ecotoxicological testing, cf. Section 62 seventh subsection, are comprised by the yellow category. Substances in yellow category with BOD28 greater than or equal to 20 percent and less than 60 percent, cf. Section 62, shall be assessed and categorised in the following subcategories:

a) subcategory 1 if the substance is expected to be fully biodegraded or biodegradable into degradation products that would fall in yellow category, cf. first sentence, or green category, cf. fifth subsection, if they were subject to categorization requirements,

b) subcategory 2 if the substance is expected to biodegrade into degradation products that would fall in red category if they were subject to categorization requirements, cf. third subsection,

c) subcategory 3 if the substance is expected to biodegrade into degradation products that would fall in black category if they were subject to categorization requirements, cf. second subsection.

The assessment and the subcategorization as mentioned in the third sentence shall be documented in writing.

The green category comprises:

a) substances on OSPAR's PLONOR-list,

b) substances on the list in REACH Annex IV,

c) some/individual substances included in REACH Annex V.

Chemicals shall be categorised according to their substance content in the following way:

a) Black category if the chemical contains substances in the black category, cf. second subsection,

b) Red category if the chemical contains substances in the red category, cf. third subsection, but not in the black category,

c) Yellow category if the chemical contains substances in the yellow category, cf. fourth subsection, but not the black or red category. If relevant, they shall further be categorized in subcategories, cf. fourth subsection litera a to c:

    1) Subcategory 1, if the chemical only contains substances in subcategory 1,

    2) Subcategory 2, if the chemical contains substances in subcategory 2, but not subcategory 3,

    3) Subcategory 3, if the chemical contains substances in subcategory 3,

d) Green category of the chemical only contains substances in green category, cf. fifth subsection.

Section 64
Environmental assessments of chemicals

The operator shall carry out comprehensive evaluations of the chemicals' potential for environmental harm, based on the chemicals' innate properties, quantities, time and location of discharge, as well as other factors of significance. The requirement for environmental assessments does not apply to chemicals as mentioned in Section 62, sixth subsection, litera a to i. The assessments shall be carried out

a) before new chemicals are used

b) when entering into chemicals contracts

c) as a minimum every three years for chemicals in the green and yellow categories

d) as a minimum annually for chemicals in the red and black categories and yellow subcategories 2 and 3

The environmental assessments shall be documented.

Section 65
Choice of chemicals

Based on the environmental assessments required by Section 64, the operator shall select those chemicals that give the lowest risk of environmental harm. Chemicals in the black category, red category and the yellow sub categories 2 and 3, cf. Section 63, shall only be selected if they are necessary for technical or safety reasons, or it has been documented in special cases that application of these will result in the lowest risk for environmental harm.

The operator shall use chemicals with the lowest possible content of impurities.

The operator shall have separate plans for substitution of chemicals in the black category, red category and the yellow sub categories 2 and 3, cf. Section 63. The plans shall outline the chemicals that are prioritized for substitution and when this can be done.

Section 66
Use and discharge of chemicals

The operator shall obtain a permit in accordance with Chapter 3 of the Pollution Control Act (in Norwegian only) to use and discharge chemicals.

Unused chemicals shall not be discharged to sea, cf. the Pollution Control Regulations, Chapter 22 (in Norwegian only) regarding dredging and dumping in the sea and river systems.

Chemicals shall be stored in a prudent manner.

Use and discharge of chemicals shall be reduced to the extent possible.

The following is allowed if it is in accordance with requirements pursuant to the Act relating to control of products and consumer services (in Norwegian only):

a) necessary use and discharge of chemicals in fire water systems,

b) use of lubricants that will not be discharged to sea, including those supplied in spray cans,

c) use of chemicals in closed systems

d) use of laboratory chemicals,

e) use of fuel,

f) use of paint and other surface treatment agents, including those supplied in spray cans,

g) use of gas trace substances,

h) use and discharge of chemicals to avoid well control events or recover well control,

i) use and discharge of emulsion breaker to separate water from collected oil emulsion in tank during an action against acute pollution.

Discharge of chemicals used to prevent lost circulation and that consist of plastics or contain plastics, is not allowed.

Field testing of chemicals as alternatives to chemicals in the permit pursuant to the Pollution Control Act (in Norwegian only), or testing of chemicals within new areas of use, is permitted if

a) the number of days of consumption does not exceed 14 days,

b) field testing does not include trace elements,

c) field testing does not include chemicals in black category or assumed black category, yellow subcategory 3 or assumed yellow subcategory 3, cf. Section 63,

d) total consumption of substance in red category or assumed red category, yellow subcategory 2 or assumed yellow subcategory 2, cf. Section 63, does not exceed 50 kg.

Section 66a
Use and discharge of radioactive trace elements

The operator shall have permission to use and discharge radioactive trace elements and to inject such substances.

Use and discharge of radioactive trace elements shall be reduced as far as possible. The operator shall assess the substitution of radioactive trace elements with other types of trace elements or surveys. Surveys

using radioactive trace elements shall only be carried out by companies approved by the Norwegian Radiation and Nuclear Safety Authority .

The operator shall estimate the amount and concentration of radioactive trace elements in the discharges.

Section 67
Chemicals for use in well control events

The operator shall have an overview of chemicals that can be used to avoid well control events or recover well control, and guidelines for the use of such chemicals. The guidelines shall be based on risk analyses, cf. Chapter V of the Management Regulations.

Section 68
Discharge of cuttings, sand and other solid particles

Drill cuttings, sand and other solid particles shall not be discharged to sea if the associated content of base fluid in oil-based drilling fluid or formation oil is more than ten grams per kilo of dry mass.

The operator shall have a permit under Chapter 3 of the Pollution Control Act (in Norwegian only) for the discharge of drill cuttings if the associated content of base fluid in oil-based drilling fluid is equal to or less than ten grams per kilo of dry mass.

Drill cuttings with pendants of water-based drilling fluid, and sand and other solid particles may be discharged to sea if the content of formation oil is equal to or less than ten grams per kilo of dry mass, unless otherwise permitted by the Pollution Control Act Chapter 3.

Chemicals that accompany cuttings, sand or other solid particles at sea shall be subject to a permit to discharge, cf. Section 66, first subsection.

Section 68a
Subsea rock installation

Subsea rock installation which is necessary when placing facilities on the sea floor is allowed if:

a) the activity is carried out in an area where there is no risk that vulnerable environmental values are impacted,

b) the activity does not disturb contaminated sediments,

c) clean rock masses are used.

All rock installation shall be carried out in such a way as to minimize impact on surrounding areas.

The operator shall document type and quantity of rocks used and how the operation was carried out, cf. the Framework Regulations, Section 23.

Section 69
Formation testing, clean-up and start-up of wells

The operator shall plan and conduct the activity at the formation testing, clean-up and start-up of production wells to minimize emissions to air and sea, cf. Section 11 of the Framework Regulations. The

evaluations of method selection, and technical solutions and measures to minimize emissions, shall be documented.

If the activity causes flaring or burning over the burner boom, combustion shall be optimized to ensure high combustion efficiency, so that air and sea emissions are minimized.

The operator shall take the necessary measures to limit potential damage to the external environment when oil spillage from the burning of hydrocarbons causes visible oil on the sea surface. The obligation to take action relates to measures that are in a reasonable proportion to the damage and inconveniences to be avoided.

Oil-containing water from the activity to be released to the sea from the facility shall be handled in accordance with Section 60a.

Oil and chemical-containing water from clean-up and start-up of production wells can only be shipped with the production flow to shore if the recipient on land is authorized to receive such water and has capacity and is suitable in each case to accept. When such water is shipped with the production flow to shore, the operator shall optimize the dosage of chemicals added to the export flow so that the potential for environmental damage at receiving plants is minimized, cf. Section 64, first subsection.

The operator shall have permission under Chapter 3 of the Pollution Control Act (in Norwegian only) for formation testing, clean-up and start-up of wells.

Section 70
Measurement and calculation

The operator shall measure or calculate emissions and discharges to air and sea, consumption of chemicals and injected volume. In produced water that is released to the sea, the amount of water and the content of oil and other naturally occurring substances in produced water shall be measured. The measurement and calculation of NOx emissions from combustion units shall be done as set in Section 70b.

The measurements and calculations shall be performed so that they are representative and the uncertainty is as low as possible, and shall as a minimum include

a) components that are regulated through limit values in the permit pursuant to the Pollution Control Act (in Norwegian only) or these regulations,

b) other components subject to reporting pursuant to the Management Regulations Section 34 first subsection litera c.

Oil content in produced water shall be analysed according to OSPAR's reference method for determining dispersed oil in water (OSPAR Agreement 2005-15) or analysis methods calibrated against it. In other respects, sampling and analysis shall be carried out in accordance with Norwegian Standards where such exist.

The operator may carry out sampling and analysis of components himself if the operator participates in comparative laboratory testing (CLT) or regularly verifies the analyses at an external, accredited laboratory for the components that are regulated with limit values in the permit under the Pollution Control Act or these regulations. If the operator does not perform sampling and analysis himself, sampling and analysis shall be performed by laboratories accredited for the service.

The operator shall have a measurement and calculation programme that includes methods, assessment of uncertainties and quality assurance of the measurements and calculations.

The Norwegian Environment Agency can set more detailed requirements for measurements and calculations.

Section 70a
Measuring the discharged amount of radioactive substances

Content of naturally occurring radioactive substances in produced water to be discharged, shall be measured, cf. the Norwegian Radiation and Nuclear Safety Authority's *Guidelines for reporting radioactive substances from the petroleum activities (in Norwegian only).*

Measurement frequency, emission parameters and measurement methods shall be described in a measurement programme.

The measurement programme shall be set up so that the extent and the quality of the measurements are sufficient for the purpose, to ensure representative and comparable measurements.

Analyses shall be performed in a systematic and standardized manner.

The uncertainty in all aspects of the measurements shall be reduced as far as possible.

Section 70b
Measurement of NOx emissions from combustion units

Emissions from conventional turbines, engines, and boilers with a thermal input of 10 MW or more, which are used to cover the energy needs of the facility and any associated facilities during normal operation, shall be measured using the Continuous Emission Monitoring System (CEMS), Predictive Emission Monitoring System (PEMS) or by annual accredited emission measurements performed at representative loads. CEMS or PEMS must be verified at least every three years against accredited emission measurements performed at representative loads on all models of turbines, engines and boilers installed on the facility.

Emissions of NOx from low-NOx turbines with a thermal input of 10 MW or more, which are used to cover the energy needs of the facility and any associated facilities during normal operation, shall be measured by accredited emission measurements at least every three years at representative loads on the individual turbine. The operator shall establish a methodology for quantifying the emissions between the measurement campaigns. If NOx emissions from low-NOx turbines are measured using PEMS, the system shall be verified at least every three years against accredited emission measurements performed at representative loads on the individual turbine. For CEMS and for PEMS that satisfy the technical specifications in SN-CEN / TS 17198: 2018, the verification requirements described in the first subsection apply.

The difference between the NOx concentration measured by CEMS or PEMS and the NOx concentration measured by accredited emission measurements shall not exceed ± 10 % for conventional turbines and ± 10 mg/Nm3 for low-NOx turbines.

Section 71
Injection of produced water and other liquid or solid material into subsea geological formation

The operator shall have a permit in accordance with the Pollution Control Act (in Norwegian only), Chapter 3, for injection of produced water and other solid or liquid material, including drainage water, cuttings with attachment of drilling fluids and formation oil and well streams from well cleanings and well start-ups, to subsea geological formations for final disposal.

For injection as mentioned in the first subsection, the following applies:

a) The operator shall ensure that injected material remains permanently in the formation.

b) Before selecting a storage formation, the operator shall map the geology of the formation and ensure that the storage formation is suitable for injection of the material in question.

c) The operator shall have an overview of what is injected and in what quantities.

d) The operator shall monitor the injection so that deviations in the injection process that entail a risk of leakage to the seabed, are detected as quickly as possible, cf. the Activities Regulations Section 57, so that necessary measures can be implemented.

e) It is not permitted to mix other waste or material into the volumes that are injected than what follows from the permit.

CHAPTER XII
Waste etc.

Section 72
Waste

The operator shall, to the extent possible, avoid that waste is generated.

The waste generated in connection with the activities, shall be handled in a prudent environmental and hygienic manner and in accordance with the Pollution Control Act (in Norwegian only) and decisions made in pursuance of the Pollution Control Act.

The operator shall prepare a waste treatment plan.

The operator shall measure or calculate the amount of waste that is brought to a legal waste facility or goes to recycling.

Waste oil can be added to the production flow.

Section 72a
Leaving of waste, equipment and other material

Leaving waste and other material in the marine environment that can cause damage and inconvenience to the environment, is not permitted without permission from the Norwegian Environment Agency.

For exploration drilling, all permanently mounted equipment that is visible above the seabed, such as wellheads, must be removed after use.

Section 72b
Waste that may contain radioactive substances

Waste that may contain radioactive substances shall be measured on the facilities using a method of sufficient reliability. If the measurement shows that the waste may be radioactive, sampling must be carried out when the waste comes ashore.

When transporting pipes and other equipment components, all openings must be sealed with e.g. thick plastic so that radioactive deposits in the equipment cannot lead to contamination of the environment during transport.

CHAPTER XIII
Emergency preparedness

Section 73
Establishment of emergency preparedness

The operator or the party responsible for operating a facility shall prepare a strategy for emergency preparedness against hazard and accident situations, cf. also the Management Regulations Section 9 litera c. The emergency preparedness shall be established, inter alia, on the basis of results from risk and emergency preparedness analyses as mentioned in Section 17 of the Management Regulations and the defined hazard and accident situations and barrier performance requirements, cf. Section 5 of the Management Regulations. For the establishment of emergency preparedness with dispersants and beach-cleaning agents, refer to Chapter 19 of the Pollution Control Regulations (in Norwegian only).

The emergency preparedness against acute pollution shall cover the ocean, coast and shoreline. The operator shall have three independent barriers, cf. Section 5 of the Management Regulations, one near the source, one in fjord and coastal waters and one at shoreline. The barrier near the source and in the open sea shall be able to handle the quantity of pollution that can fall to the barrier. Barriers in fjord and coastal waters and at shoreline shall be able to handle the quantity of pollution that can fall to the barrier after the effect of the previous barrier has been taken into account.

Where the emergency preparedness is related to activities as mentioned in Section 25 of the Management Regulations, Section 26 of the Management Regulations applies.

The Norwegian Environmental Agency can make further demands on the extent of emergency preparedness against acute pollution.

Section 74
Shared use of emergency preparedness resources

When cooperating on shared use of different operators' emergency preparedness resources, the cooperation shall be regulated by agreement.

When using vessels and mobile facilities registered in a national ship register, the operator shall coordinate its own and the contractor's emergency preparedness plans, cf. Section 20, first subsection of the Framework Regulations.

The operator shall ensure that the emergency preparedness is coordinated with the public rescue service, the rest of the national health and care service and municipal emergency preparedness in accordance with the Public Health Act Section 28 (in Norwegian only), so that the chain of action for rescued, ill or injured personnel is coherent and professionally sound, cf. Section 20, second subsection of the Framework Regulations.

Section 75
Emergency preparedness organisation

The emergency preparedness organisation shall be robust, so that it is able to handle hazard and accident situations in an efficient manner.

In the event of acute pollution, the emergency preparedness organisation shall establish necessary functions so as to effectively carry out actions against acute pollution.

Section 76
Emergency preparedness plans

Emergency preparedness plans shall be established that at all times describe the emergency preparedness and contain action plans for the defined hazard and accident situations.

Plans for emergency preparedness against acute pollution shall document the emergency preparedness resources that are included, response times, and performance and capacity in relation to the prerequisites of the environmental risk and emergency preparedness analyses. Relevant combatting methods shall be described in the emergency preparedness plan.

Section 77
Handling hazard and accident situations

The responsible party shall ensure that necessary measures are taken as soon as possible during hazard and accident situations so that

a) the right notification is given immediately,

b) hazardous situations do not develop into accident situations. In the event of accident situations, response measures shall be implemented. Response measures to limit acute pollution shall be implemented as close to the emission source as possible,

c) personnel can be rescued during accident situations,

d) the personnel on the facility can be evacuated quickly and efficiently at all times,

e) the condition can be normalised when the development of a hazard and accident situation has been stopped, e.g. through monitoring and clean-up of the pollution and restoring the environment, thereby restoring the condition to its state before the hazard and accident situation. Criteria shall be set for normalisation of the external environment.

Section 78
Collaboration on preparedness against acute pollution

Collaboration on the established emergency preparedness against acute pollution as mentioned in Section 73 and in Section 21 of the Framework Regulations, shall be regulated by agreement and at all times safeguard and be updated in relation to the total need for emergency preparedness as a result of the environmental risk associated with the petroleum activities offshore.

When deemed necessary in the event of new activities, the operator shall implement measures to ensure that the total activity does not entail unacceptable risk.

Section 79
Action against acute pollution

In the event of action against acute pollution, an action plan shall be prepared as soon as possible. The first version of the plan shall be available no later than two hours after the action management has been established. The plan shall be regularly updated through all action phases.

In the event of action against acute pollution, various response alternatives shall be evaluated, and the combination of measures that results in the lowest strain on the environment in total, shall be chosen. For the use of dispersants and beach-cleaning agents during action against acute pollution, refer to Chapter 19 of the Pollution Regulations (in Norwegian only).

In the event of mechanical combatting, the storage capacity for collected oil shall be sufficient, allowing the action to be performed in an optimal manner.

The action shall not be terminated before the situation is normalised as mentioned in Section 77 litera e, and this is documented.

CHAPTER XIV
Communication

Section 80
Communication

It shall be ensured that necessary internal and external notification and communication is safeguarded at all times during installation and operation, and during hazard and accident situations, cf. Sections 18 and 19 of the Facilities Regulations.

A person shall be designated on board to be responsible for the communication systems on manned facilities.

CHAPTER XV
Drilling and well activities

Section 81
Well programme

Prior to starting well activities, a programme shall be prepared that describes the individual activities to be carried out and the equipment to be used.

The programme shall be updated as mentioned in Section 20, second subsection litera b.

Section 82
Well location and wellbore

The well location and wellbore shall be known at all times and selected based on well parameters of significance for a safe drilling and well activity. It shall be possible to drill a relief well from two alternative locations. The locations shall be mapped and known in advance, cf. also Section 28.

If the distance to adjacent wells is less than the defined minimum distance, restrictions shall be set, cf. Section 28, second subsection.

Section 83
Shallow gas and shallow formation fluids

The responsible party shall ensure that necessary measures are planned and can be implemented to handle situations with shallow gas or other formation fluids, cf. also Section 82.

When drilling in shallow formations, the selection of well structure and drilling parameters shall prevent gas or formation fluid from the well posing a threat to personnel, environment and facility.

Section 84
Monitoring well parameters

During all drilling and well activities, drilling and well data shall be monitored and collected to verify the well prognoses, so that necessary measures can be implemented and the well programme adjusted if necessary.

Section 85
Well barriers

During drilling and well activities, there shall be tested well barriers with sufficient independence.

If a barrier fails, activities shall not be carried out in the well other than those intended to restore the barrier.

There shall be pumping and fluid capacity available on the facility or on vessels in the event of heavy well intervention. The need for pumping and fluid capacity in the event of light well intervention shall be included in the activity-specific risk assessment.

When handing over wells, the barrier status shall be tested, verified and documented.

Section 86
Well control

In the event of a well control incident, it shall be possible to regain well control by intervening directly in or on the well or by drilling one (1) relief well. This applies to wells where planning of drilling activities has been decided on after 1 January 2016.

In special cases, drilling activities that require more than one (1) relief well to regain well control in the event of a well control incident, can be planned for. When planning such activities, the solutions for regaining well control shall be verified by a party of organisational independence, no later than three months before planned start-up.

Where capping can be a measure in a well control incident, the operator shall have access to capping equipment for subsea wells.

Plans that describe how to regain the well control, shall be prepared.

Section 87
Controlled well stream

Operational restrictions shall be set for controlled well stream.

Section 88
Securing wells

All wells shall be secured before they are abandoned so that well integrity is safeguarded during the time they are abandoned. For subsea-completed wells, well integrity shall be monitored if the plan is to abandon the wells for more than twelve months.

Exploration wells commenced after 1.1.2014 shall not be temporarily abandoned beyond two years. In production wells abandoned after 1.1.2014, hydrocarbon-bearing zones shall be plugged and abandoned permanently within three years if the well is not continuously monitored.

It shall be possible to check well integrity in the event of reconnection on temporarily abandoned wells.

Abandonment of radioactive sources in the well shall not be planned. If the radioactive source cannot be removed, it shall be abandoned in a prudent manner.

Section 89
Remote operation of pipes and work strings

Remotely operated systems shall be used for handling pipes and work strings, cf. Section 33.

Limitations shall be set for the personnel's access to the work area for remotely controlled systems.

There shall be visual contact and radio communication between personnel when using remotely operated pipe handling, cf. Section 92, second subsection.

CHAPTER XVI
MARITIME OPERATIONS

Section 90
Positioning

When carrying out maritime operations, the responsible party shall implement necessary measures so that those who participate in the operations, are not injured, and so that the likelihood of hazard and accident situations is reduced.

Requirements shall be set for maintaining the position of vessels and facilities when conducting such operations, and criteria shall be set for start-up and interruption.

CHAPTER XVII
Electrical installations

Section 91
Work on and operation of electrical installations

During live work, work near live installations, work in or near earthed and short-circuited installations and during operation of low and high voltage installations, necessary measures shall be implemented to prevent injury to those who carry out the work, and to reduce the likelihood of hazard and accident situations.

The responsible party shall designate a person with responsibility for the electrical facilities.

CHAPTER XVIII
Lifting operations

Section 92
Lifting Operations

Lifting operations shall be cleared, managed and conducted in a prudent manner, cf. Chapter VII.

It shall be ensured that personnel do not come under suspended loads.

Everyone participating in lifting operations, shall have a radio for communication, and the radio shall be used unless everyone involved can communicate clearly with each other through direct speech. The

responsible party shall ensure that all communication takes place in a clear and concise manner and without disturbances.

Those involved in lifting operations shall be in possession of information about risk elements of significance for the safe execution of the operations.

The responsible party shall ensure that the role of operationally responsible entity for materials handling and lifting operations is fulfilled.

The responsible party shall also ensure that the facility's management individually approves lifting operations involving personnel transport if offshore cranes are used for such lifting operations.

CHAPTER XIX
Manned underwater operations

Section 93
Manned underwater operations

When conducting manned underwater operations, operational measures shall be implemented to prevent those participating from being subjected to injury or illness, and to reduce the likelihood of mistakes that can lead to hazard and accident situations. Cf. Chapter VII.

Section 94
Time limit provisions

The following time limit provisions shall apply when conducting manned subsea operations:

a) stays at working depth:
in the case of diving down to 180 metres, the stay at working depth shall not exceed 14 days. With regard to deeper diving, the stay at working depth shall not exceed ten days,

b) time between saturation periods:
the time between saturation periods shall at least equal the duration of the previous saturation period. With regard to diving deeper than 180 metres, the time between saturation periods shall be at least twice that of the previous saturation period,

c) bell run:
in the case of diving down to 180 metres, the bell run shall not exceed eight hours. With regard to deeper diving, the bell run shall not exceed six hours. If the divers stay dry in a subsea chamber, the bell run can be extended to eight hours. The timing of a bell run begins when the clamp between the bell and the chamber is first loosened and ends when the clamp is reconnected, ready for pressure equalisation and final transfer of the divers back to the chamber complex.

d) time in water:
in the case of diving down to 180 metres, the divers shall not stay in the water for more than four hours over a twelve-hour period. With regard to a three-man bell run, the time in the water can be extended to six hours provided

    1) the diver returns to the diving bell in the course of the third or fourth working hour in water for least a 30-minute break with the diving helmet off. Breaks in the bell shall be logged,

    2) the diver has a ”dry day” as a back-up diver in the bell at least every three days. With regard to diving deeper than 180 metres, the diver shall not stay in the water for more than three hours over a twelve-hour period,

e) use of breathing mask:
   after a maximum of four hours, divers using a breathing mask in the subsea chamber shall have a break in an atmosphere where use of a breathing mask is not necessary,

f) recompression following subsea operations:
   after a completed saturation period, the divers shall have immediate access to therapeutic recompression for at least 24 hours following completed decompression. In the case of surface-oriented diving, the divers shall have immediate access to therapeutic recompression of at least 12 hours after completed decompression,

g) work-free period during work under increased pressure:
   divers working in water or who work under increased ambient pressure, shall, over a 24-hour period, have a continuous work-free period of at least 12 hours. Work and rest periods shall be specified in a shift programme and shall be planned at regular hours,

h) surface personnel in direct communication with divers in the water: the surface personnel in direct communication with divers in the water shall not perform this function for more than four hours consecutively without a break. The total time in this function shall be limited upward to eight hours over a twelve-hour period.

CHAPTER XX
Concluding provisions

Section 95
Supervision, decisions, enforcement etc.

Chapter IX of the Framework Regulations applies correspondingly to these regulations.

Section 96
Entry into force

The Regulations will enter into force on 1 January 2011. At this time, the Regulations relating to conduct of activities in the petroleum activities of 3 September 2001 No. 1157 will be repealed.