

1. Draft Regulations relating to the physical design and fitting out of offshore installations

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Legal basis: Established by the Ministry of Industry, Commerce and Fisheries on xx.xx.xxxx in consultation with the Ministry of Labour and Social Inclusion pursuant to Sections 1, 2, 3, 10, 11, 12, 21, 22 and 24 of Act no. 79 of 17 June 2005 relating to aquaculture (the Aquaculture Act), Sections 6, 8, 19, 23 and 24 of Act no. 97 of 19 June 2009 relating to animal welfare, and Sections 1-1, 4-1, 4-3, 4-4, 4-5, 18-1, 18-4, and 18-5 of Act no. 62 of 17 June 2005 relating to the working environment, working hours and employment protection, etc. (the Working Environment Act).

Chapter 1. Introductory provisions

Section 1. Purpose

The purpose of these Regulations is to safeguard life and health, the environment, the fish's living environment and material assets by ensuring satisfactory technical standards at offshore installations.

The physical design and fitting out of aquaculture installations must help ensure compliance with requirements relating to aquaculture activities that follow from other regulatory frameworks.

Section 2. Geographical scope of the Regulations

The Regulations apply at offshore sites:

- a. in Norway's territorial waters
- b. in Norway's economic zone and
- c. on the Norwegian continental shelf.

Section 3. Material scope of the Regulations

The Regulations apply to the physical design and fitting out of aquaculture installations.

The Regulations do not apply to equipment covered by Regulations no. 544 of 28 May 2009 on machinery (the Machinery Regulations).

Section 4. Definitions

- a. *Licence holder*: Any party that holds or is obliged to hold an aquaculture licence pursuant to Act no. 79 of 17 June 2005 relating to aquaculture (the Aquaculture Act) for aquaculture of fish,
- b. *Aquaculture installation*: Installation for aquaculture of fish, including all associated equipment and systems. An installation can consist of multiple units, which may be grouped together or separate.
- c. *Offshore site*: Geographically defined area in the sea outside the production areas (cf. the Regulations on production areas for aquaculture of edible fish species in the sea, for salmon, trout and rainbow trout).
- d. *Load-bearing structures*: Those parts of an aquaculture installation whose main purpose is the transfer of loads.
- e. *Design loads*: Loads that form the basis for the planning and design of aquaculture installations.
- f. *Dimensioning load*: Characteristic load multiplied by load coefficients.
- g. *Mooring system*: System consisting of lines and anchors whose main function is to hold an aquaculture installation in position.
- h. *Main safety functions*: Safety functions that must be maintained during and after an accident situation.
- i. *Natural loads*: Loads caused by natural forces
- j. *Safety functions*: Technical barrier elements that are intended to reduce the possibility of specific faults, dangerous situations and accidents occurring or that limit or prevent injuries, damage and adverse consequences.
- k. *Accidental loads*: Loads that the aquaculture installation may be exposed to in the event of incorrect use, technical faults or failures, or adverse external influences.
- l. *Verification*: Checks to confirm compliance with regulatory requirements.
- m. *Risk*: Consequences of the activity and associated uncertainties.

Chapter 2. General provisions

Section 5. Responsibilities pursuant to these Regulations

The holder of the aquaculture licence is responsible for ensuring that the requirements stipulated in these Regulations are complied with. The licence holder must ensure that everyone who performs work on their behalf complies with the requirements.

Section 6. Compliance documentation

The licence holder must at all times be able to document compliance with the requirements stipulated in these Regulations.

Section 7. Qualification and use of new technology

Before starting to use new technology, a documented technology qualification process must be carried out to ensure that the technology meets the requirements stipulated in these Regulations.

As a minimum, the technology qualification process must include:

1. Establishment of a qualification basis, including determining representative criteria

- for development, testing and use
2. An assessment of the technology
 3. Risk assessment
 4. Preparation of a qualification plan
 5. Implementation of the qualification plan
 6. Assessment of the results

Section 8. Verifications

Aquaculture installations must be verified to document compliance with the requirements stipulated in these Regulations. The verification must cover the design, fabrication, installation and operating phases.

The licence holder must pay particular attention to the scope, method and degree of independence in verifications. Once it has been decided to conduct verifications, they must be carried out in accordance with a comprehensive and unambiguous verification programme and basis.

The licence holder must make an overall assessment of the results of the completed verifications.

The entity that performs the verification must have the necessary qualifications and resources to perform it.

Section 9. Consent

The licence holder must obtain consent from the Directorate of Fisheries before:

- a. the aquaculture installation is put into use
- b. any major redevelopment of the aquaculture installation or change of use that is not subject to a separate application (cf. Section 4-15 of the Salmon Allocation Regulations)
- c. use of the installation beyond its defined service life and the assumptions on which the design of the installation was based, and removal of the aquaculture installation.

The licence holder must submit an application for consent to the Directorate of Fisheries in sufficient time before the activities mentioned in the first paragraph are to be started.

Consent must be granted if the requirements stipulated in the Regulations that ensue from the Aquaculture Act and the Working Environment Act are met.

The Directorate of Fisheries obtains statements from the [working environment authority] before consent is given.

Section 10. Application for consent

Applications for consent must include:

- a. a description of the activities covered by the application and the progress plan for these activities
- b. documentation of compliance with the requirements stipulated in these Regulations
- c. an overview of governing documents for the activities covered by the application
- d. a description of the governance systems for the activities covered by the application
- e. a description of the analyses and assessments that have been performed for the

- activities and the aquaculture installation covered by the application and the results and measures that are going to be implemented as a result of these assessments
- f. a description of the completed and planned verifications
- g. overview drawings of the aquaculture installation
- h. a description of aspects related to emergency preparedness.

When applying for use of the installation beyond its defined service life and the assumptions on which the design of the installation was based, the application must also include a summary of the results of the analyses and assessments of the technical condition of the aquaculture installation on which the application is based.

Chapter 3. General requirements relating to offshore installations

Section 11. Physical design of aquaculture installations

Aquaculture installations must be designed such that a failure in one component or system or a single incorrect action does not lead to unacceptable consequences.

The physical design of the aquaculture installation must be based on the operational form, geographical location and local conditions at the site.

Aquaculture installations must be designed to reduce the following aspects as far as possible:

- a. risk of danger and accidents to personnel and facilities
- b. operational discharges and the risk of illegal pollution
- c. risk of fish escaping.

Installations must be designed such that:

- a. the fish have a good living environment.
- b. maintenance and replacement of equipment can be carried out safely
- c. waste and by-products can be handled safely and in an environmentally sound manner
- d. diving can be done safely
- e. the installation can be closed down and removed.

Unmanned aquaculture installations must be designed such that the need for human presence and the number of visits is as low as possible.

Section 12. Main safety functions

Aquaculture installations must have main safety functions that safeguard human life and health, the environment, the fish's living environment and material assets and that limit pollution.

For aquaculture installations, the following main safety functions must be maintained in the event of an accident:

- a. Escalation of accident situations must be prevented such that personnel outside the immediate vicinity of the accident site are not injured.
- b. The main load-bearing capacity of load-bearing structures must be maintained until the aquaculture installation has been evacuated.
- c. At least one evacuation option from each area must be maintained, where personnel can wait until evacuation to the aquaculture installation's safe areas.
- d. Escalation of local damage to the enclosure must be prevented such that fish that are outside the immediate vicinity of the accident site are not injured and do not escape.

- e. Escalation of local damage must be prevented such that illegal pollution is limited.

Section 13. Safety functions

Aquaculture installations must be equipped with safety functions that at all times can

- a. detect abnormal states
- b. prevent abnormal states from developing into dangerous situations and accidents
- c. limit damage and pollution in the event of an accident.

The licence holder must establish requirements for the performance of safety functions. Safety functions must meet these requirements at all times.

The status of active safety functions must be available in the control room and must be known to relevant personnel at all times.

Section 14. Mapping of physical natural conditions

The licence holder must map and quantify physical natural conditions at the site and use this information in the design and operation of the aquaculture installation.

The mapping must include

- a. meteorological and oceanographic conditions
- b. seabed conditions and seabed topography.

Section 15. Loads, load effects and resistance

The licence holder must determine design loads for use as a basis for the design and operation of the aquaculture installation. Design loads must be used when dimensioning the serviceability, ultimate, fatigue and accidental limit states.

Aquaculture installations must be designed such that defined accidental loads do not result in unacceptable consequences.

Load-bearing structures and enclosures must be sufficiently robust that local damage or failure does not lead to unacceptable consequences.

Aquaculture installations must at all times be able to withstand the dimensioning loads and likely combinations of these loads.

Deflection, deformation and movement must not impede or impair the planned function of any equipment, installation or part of an installation in a serviceability limit state.

Serviceability limit states must include all operations that are necessary for the operation of the installation.

Load-bearing structures and enclosures must be able to withstand the loads to which they will be exposed, including loads with an annual probability of 10^{-2} in the ultimate limit state.

Load-bearing structures and enclosures must have sufficient resistance to fatigue and degradation for their defined service life.

Installations, systems and equipment that are part of the realisation of

main safety functions must, as a minimum, be designed such that dimensioning accidental loads or dimensioning natural loads with an annual probability greater than or equal to 1×10^{-4} do not result in the loss of a main safety function.

Section 16. Materials

The materials to be used in or at an aquaculture installation must have properties that provide the aquaculture installation and components of the aquaculture installation with satisfactory resistance and durability throughout its entire defined service life. The properties of materials must be documented.

When selecting materials, the following must be taken into account

- a. joining methods
- b. material protection needs
- c. the workers' health and working environment
- d. fish welfare
- e. pollution
- f. future removal and reuse.

Chapter 4. Requirements relating to specific components, systems and functions

Section 17. Fish-farming technical systems

Aquaculture installations must have fish-farming technical systems in order to be able to meet the operational requirements stipulated pursuant to the Aquaculture Act, the Animal Welfare Act and the Food Act.

The systems must be adapted to the needs of the aquaculture operations at the individual installation. Critical systems must have redundancy.

Section 18. Enclosure

Aquaculture installations must have an enclosure that ensures that the fish are kept in place at the installation.

The enclosure must

- a. be designed to prevent the escape of fish
- b. be designed to safeguard the fish's living environment
- c. meet relevant requirements regarding loads, load effects and resistance (cf. Section 15)
- d. meet relevant requirements regarding main safety functions (cf. Section 12)
- e. meet requirements regarding materials (cf. Section 16)
- f. be verified (cf. Section 8)
- g. be monitored (cf. Section 21)
- h. be cleaned such that water flow is maintained and solidity is ensured within the design assumptions
- i. be maintained.

Openings in the enclosure must be adapted to the size of the fish such that the fish cannot pass through the openings.

Section 19. Buoyancy and stability

Aquaculture installations must have the necessary buoyancy and stability both when intact and when damaged. Heeling in the intact state must not lead to illegal pollution or to fish escaping.

The impact of natural loads on the enclosure must be taken into account when assessing the necessary buoyancy and stability. Site-specific natural conditions (cf. Section 14) must be used when calculating stability.

Aquaculture installations must be able to withstand the filling of any waterproof section in a damaged state.

Aquaculture installations must be designed such that a collision with a visiting vessel does not result in unacceptable loss of stability or buoyancy.

Equipment, systems and goods must be secured against displacements that might affect the stability of the installation in an unacceptable way.

Section 20. Mooring and positioning systems

All mooring and positioning systems must have sufficient capacity to keep the aquaculture installation in position in ultimate, fatigue and accidental limit states.

The impact of natural loads on the enclosure must be taken into account in the mooring analyses. Site-specific natural conditions (cf. Section 14) must be used as the basis for calculating the natural load values used.

When selecting a mooring system, importance must be attached to minimising damage to the seabed.

Section 21. Control, monitoring and alerting system

Aquaculture installations must have control and monitoring systems with alarms that at all times alert personnel of any incidents, non-conformities or faults/failures that might affect

- a. personal safety
- b. fish health and fish welfare
- c. structural safety
- d. illegal pollution and operational discharges
- e. escape of fish.

Alarms to alert personnel of problems must be designed such that they will be perceived and can be processed in the time required for the safe handling of a situation.

Aquaculture installations must be equipped with instrumentation for monitoring and recording of states and parameters that may have an impact for verification of the results of analyses, and parameters that are of significance to the further use of the installation.

Section 22. Communication systems

Aquaculture installations must have communication systems that at all times make it possible

to communicate internally at the installation and between the installation and ships, aircraft and land.

The communication systems must at all times be able to alert personnel of dangerous situations and accidents.

Equipment for internal communication at the aquaculture installation and external communication must be selected based on the operational needs, type of activity and defined dangerous situations and accidents.

Communication equipment and the associated power supply must be designed and protected such that their functionality is maintained in the event of a dangerous situation or accident.

There must be at least two independent alerting channels to land.

Section 23. Electrical systems

Electrical systems must be dimensioned and configured such that the power requirements can be met in all operating modes.

Electrical systems must be designed with protection and other safety systems to avoid abnormal conditions and faults or failures that could result in danger to personnel, fish and the aquaculture installation.

Installations must be designed with adequate protection against:

- a. electric shock during normal use and in the event of a fault or failure,
- b. thermal effects,
- c. overcurrent,
- d. fault currents,
- e. overvoltage,
- f. undervoltage,
- g. variations in voltage and frequency,
- h. interruptions in the power supply,
- i. ignition of explosive atmosphere.

Section 24. Emergency power and emergency lighting

Aquaculture installations must have a reliable, robust and simple emergency power system that ensures adequate power supply to equipment and systems if the main power supply fails.

When transitioning from main power to emergency power, it must be ensured that interruptions do not result in operating problems for the users of emergency power. The users of emergency power must be limited to equipment and systems that help maintain the function of the aquaculture installation and ensure the safety of personnel and fish. The emergency power system must have as few automatic shut-off functions as possible to ensure continuous operation.

The aquaculture installation must be equipped with emergency lighting that ensures the necessary lighting at the installation if the main lighting fails.

Section 25. Handling of materials and transport routes

Transport routes at aquaculture installations and between installations and vessels must be designed such that the handling of materials and the movement of personnel can be carried out efficiently and safely.

As far as possible, the handling of materials must be carried out using mechanical systems and technical aids.

Where access between different levels is used daily, there must be stairs or a ramp.

Section 26. Marking

Aquaculture installations must be marked such that they are quickly identifiable and so that other traffic in the area can be notified. The marking must be in accordance with the Norwegian Coastal Administration's provisions.

Chapter 5. Requirements relating to workplaces and living areas

Section 27. Ergonomic design and human-machine interfaces

Workplaces and work equipment must be designed and located such that the risk of incorrect actions is reduced.

Screen-based equipment and other technical equipment to monitor, operate and control machines, systems or manufacturing processes must be designed such that the risk of incorrect actions is reduced.

Information displays and control systems must be designed, located and grouped such that necessary information can be received and necessary actions carried out quickly and easily. The information presented must be correct and easily understandable.

Section 28. Outdoor work areas

Outdoor work areas must have adequate protection and lighting to reduce the risk of injury, damage and incorrect actions.

The licence holder must establish weather and light criteria for when different tasks can be performed and when they must be discontinued.

Section 29. Noise and acoustics

Aquaculture installations must be designed such that workers are not exposed to harmful levels of noise that might lead to hearing loss. The limits for noise exposure specified in the *Regulations concerning Action and Limit Values* must be corrected for working hours longer than 8 hours.

Noise levels and acoustics must not hinder communication in a way that might affect

safety. Noise levels in cabins, break rooms and living areas must be reduced as far as is possible to help ensure personnel can get the necessary recuperation and rest.

Section 30. Safety signage

Safety signs must be set up if it is impossible, by means of technical measures or other arrangements, to prevent workers from being exposed to a risk of accidents, injury or harm to their health.

Safety signs must be set up at the entrance to rooms and zones or equipment where workers may be exposed to a risk of accidents, injury or harm to their health.

Emergency, rescue and evacuation equipment, as well as the route to this equipment, must be marked with safety signs.

Section 31. Living quarters

Aquaculture installations must have living quarters. The furnishings and capacity of the living quarters must provide a satisfactory living environment and be adapted to the various functions that are to be met and the expected personnel needs in the various phases of the aquaculture operations.

Cabins must be designed such that personnel cannot become trapped in the event of a dangerous situation or accident and such that rescue personnel can enter the cabin to search for missing persons.

Aquaculture installations must have a health department that is adequately equipped such that proper first aid and medical treatment can be provided. From the health department, it must be possible to interact with a doctor on land, and there must be arrangements for internal communication between the health department and other functions at the installation. Communication technology, equipment and other vital equipment must be protected against power outages.

Living quarters must have equipment for the testing of food and drinking water.

Section 32. Helicopter deck

Helicopter decks must be designed and equipped such that they can be used by the helicopter operator (cf. the Regulations relating to helicopter aviation – use of offshore helidecks).

Chapter 6. Requirements relating to safety and rescue systems and equipment

Section 33. Fire protection

Aquaculture installations must have the following protection against fire:

- a. Where passive fire protection is used, it must be designed such that it provides relevant structures and equipment with sufficient fire resistance in terms of their load-bearing capacity, integrity and ability to be isolated.
- b. Rooms that have important functions and important equipment, as well as rooms with an elevated fire risk, must be separated from their surroundings by fire separations of an appropriate fire class in light of the type of fire and the fire and explosion loads to which they might be exposed.
- c. Thoroughfares must not weaken the fire separations. Doors in fire separations must be self-closing.
- d. Aquaculture installations must have a fire detection system that ensures rapid and reliable detection of outbreaks of fire. The system must be able to perform its intended functions independently of other systems. The location of fire detectors must be based on relevant scenarios and simulations or tests.
- e. Aquaculture installations must have a sufficient firewater supply to be able to fight fires and must have a supply of firewater from fire pumps or some other independent supply such that there is sufficient capacity at all times.
- f. Fixed fire-fighting systems must be installed in potentially explosive areas and in areas with an elevated risk of fire.
- g. Aquaculture installations must be equipped with sufficient manual fire-fighting equipment and firefighter gear.

Section 34. Escape routes, evacuation and rescue equipment

Aquaculture installations must at all times have equipment available for the rapid and gentle rescue of personnel who fall into the sea inside or outside the installation.

Escape routes must be designed such that all evacuation can be carried out simply, quickly and safely. There must be at least two escape routes from areas of general traffic.

Personnel must be able to be evacuated quickly and efficiently to a safe area in all weather conditions. The choice of means of evacuation, their location and protection must be based on the defined dangerous situations and accidents.

Personal survival suits must be stored in the cabins. In addition, a number of survival suits and life jackets must be stored in easily accessible places at the installation. Survival suits and life jackets must be stored in such a way that their quality does not deteriorate. Life buoys must be easily accessible.

Chapter 7. Final provisions

Section 35. Supervisory authority

The provisions stipulated pursuant to Act no. 79 of 17 June 2005 relating to aquaculture (the Aquaculture Act) are managed by the Directorate of Fisheries, which supervises compliance with and makes administrative decisions in accordance with Sections 27, 28, 29, 29a, 30 and 31a of the Aquaculture Act. This applies to the following sections in these Regulations: Sections 1 to 10, Section 11 with the exception of the fourth paragraph, litra (a) and (d), Section 12 with the exception of the second paragraph, litra (a), (b) and (c), Sections 13 to 15, Section 16 with the exception of the second paragraph, litra (c) and (d), Section 17,

Section 18 with the exception of litera (b), Section 19, Section 20, Section 21 with the exception of the first paragraph, litera (a) and (b), and Sections 22, 24, 27 and 28.

The provisions stipulated pursuant to Act no. 97 of 19 June 2009 relating to animal welfare (the Animal Welfare Act) are managed by the Norwegian Food Safety Authority, which supervises compliance with and makes administrative decisions in accordance with Sections 30, 32, 33, 34 and 35 of the Animal Welfare Act. This applies to the following sections in these Regulations: Sections 1 to 7, Section 11, fourth paragraph, litera (a), Section 16, second paragraph, litera (d), Section 17, Section 18, second paragraph, litera (b), and Section 21, first paragraph, litera (b).

The Norwegian Ocean Industry Authority (Havtil) / the Norwegian Labour Inspection Authority supervises compliance with and makes administrative decisions to implement the provisions given in and pursuant to these Regulations in accordance with Act no. 62 of 17 June 2005 relating to the working environment, working hours and employment protection, etc. (the Working Environment Act). This applies to the following sections in these Regulations: Sections 1 to 7, Section 11, fourth paragraph, litera (d), Section 12, second paragraph, litera (a), (b) and (c), Section 16, second paragraph, litera (c), Section 21 with the exception of the first paragraph, litera (b), (c), (d) and (e), Section 23, Section 25, and Sections 27 to 34.

Section 36. Exemption

In special cases, the Directorate of Fisheries may grant exemption from the provisions specified in Section 35, first paragraph.

In special cases, the Food Safety Authority may grant exemption from the provisions specified in Section 35, second paragraph.

In special cases, the Norwegian Ocean Industry Authority (Havtil) / the Norwegian Labour Inspection Authority may grant exemption from the provisions specified in Section 35, third paragraph.

If provisions are managed by several authorities (cf. Section 35), exemption may be granted by these authorities in consultation.

Exemption pursuant to the first, second or third paragraph may only be granted if this will not contravene Norway's international obligations, including the EEA Agreement.

Section 37. Sanctions

Violation of these Regulations or administrative decisions made pursuant to these Regulations may lead to penal and other sanctions in accordance with Act no. 79 of 17 June 2005 relating to aquaculture, Act no. 124 of 19 December 2003 relating to food production and food safety, etc., Act no. 97 of 19 June 2009 relating to animal welfare, and Act no. 62 of 17 June 2005 relating to the working environment, working hours and employment protection, etc.

Section 38. Entry into force

These Regulations enter into force on xx xxxx 2026.

2. Proposed amendments to NYTEK23

NYTEK23 applies to Norway's land territory and its territorial waters, on the Norwegian continental shelf and in Norway's economic zone (cf. Section 2 of the Regulations). Since the Regulations on the physical design and fitting out of offshore installations are to meet similar requirements as NYTEK23 for offshore aquaculture, the Ministry proposes that NYTEK23 be delimited against the proposed new Regulations.

The following changes are made to the Regulations on technical standards for aquaculture installations for fish in the sea, lakes and watercourses:

Section 2 shall read:

“Section 2. Geographical and personnel scope of the Regulation

The Regulations apply to Norway's land territory and its territorial waters, on the Norwegian continental shelf and in Norway's economic zone. *The Regulations do not apply to offshore sites.*

The Regulations apply to any party who holds or is obliged to hold an aquaculture licence pursuant to Act no. 79 of 17 June 2005 relating to Aquaculture (the Aquaculture Act) for aquaculture of fish.

The Regulations apply to producers of goods and services for the aquaculture industry, including accredited inspection and certification bodies.”

Proposed change to Section 4 Definitions

New litera (t): *Offshore site: geographically delimited area in the sea outside the production areas (cf. the Regulations on production areas for aquaculture of edible fish species in the sea, for salmon, trout and rainbow trout).*