



FISKERI- OG KYSTDEPARTEMENTET

Norwegian Ministry of Fisheries and Coastal Affairs

Technical requirements for fish farming installations

NYTEK



FISKERIDIREKTORATET



standard
norge



NORWEGIAN
ACCREDITATION



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1. NYTEK Shall Prevent the Escape of Fish

One of the greatest environmental challenges that the fish farming industry has faced and faces is the escape of farmed fish. There are many causes of escape – ranging from poor operating routines, boat collisions and attacks by predators to technical installation failures.

The authorities and the industry have worked on determining what technical requirements should be placed on floating fish farming installations to prevent escape and how this should be regulated since the mid-1980s. This work was difficult, because floating fish farming installations are one of the

most complicated marine constructions in existence.

The solution to this problem was the development of a Norwegian standard that places technical requirements on the dimensioning, design, installation and operation of floating fish farming installations – NS 9415:2003.

This standard, which is the first of its kind internationally, was developed by Standards Norway in cooperation with representatives from the industry, research institutions and authorities. Standards Norway is currently working on internationalization of the standard through ISO.



*Photo: Per Eide,
Norwegian Seafood Export Council*

To ensure that the standard is observed by the fish farmers, the Ministry of Fisheries and Coastal Affairs has laid down regulations no. 1490 of 11 December 2003 on the technical standard of installations that are used in fish farming activities (the NYTEK Regulations).

The regulations stipulate that fish farmers can only use new installations and main components that are certified in accordance with NS 9415

and that such certification shall be performed by accredited certification body.

Existing installations are required to have a capability certificate stating that the installation meets the operational requirements in NS 9415 by 1 January 2006 in accordance with the regulations. Capability certificates may only be issued by accredited inspection bodies.

NS 9415 Floating fish farming installations – design, dimensioning, construction, installation and operational requirements

This standard contains requirements for the physical design of the installation and the associated documentation. This includes calculation and design rules, as well as installation, operating and maintenance requirements.

There are, for example, requirements for the physical design of all the main components in an installation, functionality after assembly, and how the installation shall be operated to prevent escape.

The standard stipulates what parameters shall be used to determine the natural conditions at a given locality and the procedure for classification of localities.

What is a standard?

A standard is a voluntary contract document that describes a product, service and/or work process. The purpose of standardization is to ensure uniformity, order and simplification, and to contribute to efficient operations and increase profitability. Standards provide equal competition terms and make the rules of the game known.

International standards shall contribute to the elimination of technical trade barriers and safeguard health, safety and environmental requirements.

Standardization work is based on the following main principles:

- Openness
- Voluntarism
- Consensus (which entails a process and negotiations)



2. Fish Farmers

Section 31 of the Regulations for Operating Aquaculture places a general ban on releasing fish from fish farming installations.

Fish farmers also have a general obligation to prevent the escape of fish and to ensure that any escape is detected as quickly as possible so that the escape can be limited. The fish farmers shall assess the risk factors associated with the escape of fish and implement systematic measures to prevent the escape of fish.

Before a fish farmer can purchase new installations or receive a capability certificate for existing installations, he must have the locality classified based on the local wind, current and wave conditions in accordance with

the NYTEK Regulations. This classification shall be performed by a competent body.

Fish farmers are obligated to purchase installations and components that are certified by an accredited certification body for the purchase of any new installations or main components.

For mooring, a special certification scheme for suppliers of mooring solutions has been established. Certification of the entire installation at a locality is not required. However, it is very important that the main components fit together. The capabilities and limitations of the main components shall be stated in the user handbook.



Photo: Jean Gaumy, Norwegian Seafood Export Council

When a fish farmer receives an installation or main component, it shall be accompanied by a user handbook that shall be certified together with the product.

The fish farmer is obligated to install or assemble the installation or main component as described in the user handbook, and he is also obligated to observe the maintenance requirements stated in the user handbook.

For existing installations, the fish farmers must obtain a capability certificate from an accredited inspection body by 1 January 2006. The fish farmers are obligated to maintain installations for which a capability certificate has been issued so that their technical standard is not reduced significantly in relation to the standard at the

time prior to when the certificate was issued.

The NYTEK Regulations and Section 31 of the Operating Regulations for Aquaculture apply complementarily. This means that a fish farmer must assess the technical aspects of his installation in accordance with the risk assessment pursuant to Section 31 of the Operating Regulations for Aquaculture, regardless of whether the installation is certified or has a capability certificate.

If a fish farmer finds, for example, that an installation with a capability certificate has been moored poorly, he must immediately implement measures and not wait until an inspection body inspects the installation again for the issuance of a new capability certificate.

About the Ministry of Fisheries and Coastal Affairs and the Directorate of Fisheries

The Ministry of Fisheries and Coastal Affairs (FKD) is responsible for:

- Fisheries industry
- Aquaculture industry
- Seafood safety, fish health and welfare
- Harbours, infrastructure for sea transport and preparedness for acute pollution.

The Directorate of Fisheries is a specialist agency under the Ministry of Fisheries and Coastal Affairs that is responsible for the fish farming industry. The Directorate of Fisheries is both an advisory and executive agency with respect to the preparation of draft regulations, supervision and control.



3. Suppliers of Fish Farming Installations and Mooring Solutions

Manufacturers of fish farming installations, including floating collars, rafts, barges and nets, must have their products certified by an accredited certification body if they want to deliver their products to Norwegian fish farms. They must also provide a user handbook for the installation or main component. This user handbook shall be in

accordance with the requirements in NS 9415.

Suppliers of chains, rope, etc. for the mooring of fish farming installations do not require certification.

However, anyone who is responsible for the dimensioning of mooring solutions for the specific localities must be certified.

Who is Standards Norway?



Standards Norway (SN) is a neutral and independent member organization that develops standards required by the market. The standards are developed in cooperation with the users, who provide expertise and financing. These users may include companies, industry organizations, the Norwegian authorities, research and educational institutions, accreditation and certification bodies, and other interested parties.

SN started its operations in 2003, and it is a continuation of the work performed earlier by the Norwegian General Standardizing Body (NAS), Norwegian Council for Building Standardization (NBR), Norwegian Standards Association (NSF) and Norwegian Technology Centre (NTS). Most of the standardization takes place internationally. SN is the Norwegian member of the ISO (International Organization for Standardization) and CEN (European Committee for Standardization). SN has exclusive rights to the development and publication of Norwegian Standards, and it participates in the development of international standards and publishes these in Norway.

4. Accredited certification bodies

The NYTEK Regulations stipulate that all fish farmers shall purchase new installations that are product certified by an accredited certification body.

The main components include floating collars, rafts, barges, nets and moorings. For product certification, the certification body reviews the quality system of the production operations and ensures that the product that is produced is in accordance with the requirements in NS 9415. It shall be possible to trace faults and identify any products that risk having the same fault in the event of any discrepancies.

A special scheme has been established for mooring. This is because each mooring must be adapted to the individual locality and general product certification is thus not a suitable measure for ensuring that fish farming facilities are moored in a secure manner. Instead of product certification of the actual mooring (chains, ropes, etc.), suppliers of mooring solutions

must be certified. This means the enterprise or person that dimensions the moorings for the individual locality, must be certified.

A list of all the accredited certification bodies is available on the Norwegian Accreditation website (www.akkreditert.no).

What is certification?

Certification is the issuance of documentation (certificate) from an independent third party (a certification body) confirming that a product or a management system is in accordance with specific requirements.

The requirements may, for example, be based on a standard. A certification body is accredited by an accreditation body. A certificate will accompany the delivery of a certified product.

5. Accredited inspection bodies

It might be difficult to product certify existing fish farming installations, because it may be difficult to obtain the documentation on the installation that is required to determine whether all the detailed requirements in NS 9415 have been met.

The NYTEK Regulations contain therefore a transitional scheme for installations that were established prior to the regulations entered into force. All existing installations must obtain a capability certificate prior to 1 January 2006. The conditions for obtaining a capability certificate entail that all the operational requirements in NS 9415 must be met. However, the same documentation requirements and level of detail for the analysis of the installation do not apply.

Only accredited inspection bodies can issue capability certificates. A capability certificate is valid for three years or until a significant change is made to the installation. A new capability

certificate must be obtained after that. All fish farming installations shall be certified by 1 January 2012.

Inspection bodies are accredited in accordance with NS-EN ISO/IEC 17020. Fish farming companies may also be accredited as an inspection body under certain conditions.

The standard states that it is expected that the inspection bodies participate in the exchange of experience with other inspection bodies and participate in standardization processes whenever relevant.



A list of all the accredited inspection bodies is available on the Norwegian Accreditation website (www.akkreditert.no).

6. Competent bodies

Before a fish farmer can purchase equipment or receive a capability certificate for an installation, he must have the locality he is using or will use classified based on the local wind, current and wave conditions. This is because the locality's classification governs what dimensions the various main components shall have.

The procedure and criteria for classification are stated in NS 9415. Such classification shall be performed by a competent body, but it may also be

performed by an accredited inspection body.

A competent body is a body that can present the relevant professional qualifications to the client and be independent of the client. There is no requirement that the competent body shall be accredited or certified.

It will be the fish farmers who hire a competent body to classify the locality, and thus the fish farmers must ensure that the body in question meets the conditions for being a competent body.

7. Norwegian Accreditation

Norwegian Accreditation shall accredit certification and inspection bodies, and it shall ensure that the bodies that perform inspections and certifications in accordance with the NYTEK Regulations are qualified to perform these tasks.

Norwegian Accreditation bases the accreditation of certification bodies on NS-EN 45011 – General requirements for bodies having systems for product certification, and assesses the quality system, qualifications and capability of the applicants in relation to the certification of floating fish farming installations in accordance with NS 9415.

What is accreditation?

Accreditation is governmental quality control. Laboratories, certification bodies and inspection bodies may be subject to accreditation. The accreditation process entails a review of the quality system, qualifications and capability of the body that is to be accredited.

An accredited organization has proven its qualifications through a neutral assessment by the accreditation body. Organizations acquire accreditation to document their quality in relation to customers, requirements they place on themselves, or to fulfil requirements from the authorities.



Norwegian Accreditation bases the accreditation of inspection bodies on NS-EN ISO/IEC 17020:2004 General operating requirements for various types of agencies that perform inspections. NS-EN ISO/IEC 17020 has replaced NS-EN 45004, which is the standard mentioned in the regulations.

This standard stipulates general requirements concerning qualifications and an independent position. To determine what qualification requirements shall apply, Norwegian Accreditation compares the requirements in NS-EN ISO/IEC 17020 with the requirements in NS 9415. The key subject of evaluation is what qualifications are required to assess a floating fish farming installation according to the requirements in NS 9415.

An accreditation is valid for five years. In addition, Norwegian Accreditation annually controls the bodies that are accredited.

Who is Norwegian Accreditation?

Norwegian Accreditation is the government body that controls quality and quality control in Norway.



Organizationally, the accreditation body is under the Ministry of Trade and Industry.

Professionally, Norwegian Accreditation is bound by several international agreements. In order to participate in these agreements, Norwegian Accreditation are regularly being controlled by a group of corresponding agencies in other countries. A common understanding of quality assurance is ensured in this manner.

Norwegian Accreditation is a member of the European Co-operation for Accreditation (EA). This membership ensures that Norwegian Accreditation has the same quality control as corresponding bodies in the EU.

8. Ministry of Fisheries and Coastal Affairs and Directorate of Fisheries

The NYTEK Regulations are issued by the Ministry of Fisheries and Coastal Affairs, which is the ministry that is responsible for making any amendments to the regulations.



The Directorate of Fisheries is responsible for the enforcement of the regulations. The Directorate of Fisheries is mainly responsible for three tasks in this context:

- Supervising that the requirements in the NYTEK Regulations are observed. This is performed primarily through system audits based on internal control.
- Answering questions concerning the interpretation of the regulations from industry, participants and others.
- Deciding on applications for exemption from requirements in the regulations.



9. Want More Information?

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