Regulation on Cableways, Draft

Chapter 1. Initial provisions

§ 1-1. *Purpose*

The purpose of these regulations is to ensure that cableway installations are placed, constructed, maintained, operated and removed so that the plant does not cause damage to person, property or the environment.

§ 1-2. *Scope*

The regulation applies to the construction and operation of the cableways, cf. the cable Act § 1-2, as well as the construction, production, assembly, sales and usage of safety components and subsystems for use in cableways.

The regulation does not apply to the parts of the cableway installations that are covered by the Planning and Building Act.

a) The regulation does not apply to:

a) Cableway installations listed in Regulation (EU) 2016/424 article 2 nr. 2, as implemented in this regulation chapter 4

b) Goods cableways 2 km or shorter or on private ground

c) Cable cranes for goods 2 km or shorter or on private ground.

§ 1-3. Definitions

In this regulation, what is meant by:

a) Cableway installations: facilities constructed, manufactured, assembled and put to use for transporting persons or goods by carriages or devices pulled by cables positioned along the line of travel.

b) Goods cableway: cableway intended for the transport of goods.

c) Cableway undertaking: corporations, sole proprietorships or administrative agency that has the operating permit for one or several cable ways.

d) Operational personnel: personell with tasks affecting operational safety.

e) Cableway accident: an unwanted or sudden event or a specific number of such events that have harmful consequences that lead to death or serious injury, substantial material damage to property or the environment, and all other similar accidents.

f) Serious cableway incident: an unwanted event that under slightly different circumstances could have led to a cableway accident.

g) Cableway incident: any other event than an accident, which has impact on operational safety.

§ 1-4. *Exceptions and the appointment of notified bodies*

The Norwegian Railway Authority may in particular cases make exceptions to the regulations herein when this is not in violation of international agreements that Norway has entered into.

The Norwegian Railway Authority appoints notified bodies in accordance with chapter 4.

§ 1-5 Control of subsystems and safety components (market surveillance)

The Norwegian Railway Authority may require the supplier of a subsystem or safety component, to limit their use, forbid their use, or recall the subsystem or safety component from the market, if the subsystem or safety component does not comply with the basic requirements that follows from the Regulation (EU) 2016/424 cableway installations, as implemented in chapter 4. The same applies if the subsystem or safety component lacks the appropriate CE marking. The costs of such supervision may be reclaimed from the suppliers.

Chapter 2. General requirements for the cableway undertaking

§ 2-1. *Responsibility for the cableway undertaking*

The cableway undertaking is responsible for the safe operation, maintenance and control of risks in related to the operation of the cableway.

§ 2-2 *Acceptable safety level*

A cableway installation is considered to have an acceptable safety level when

a) it is constructed in conformity with harmonised European standards, or an equivalent safety level is documented, and
b) it is operated in conformity with a recognized standard, or an equivalent safety level is documented.

The Norwegian Railway Authority may require the cableway undertaking to use and bear the cost of an independent third-party or the cableway manufacturer, to verify that the cableway has an acceptable safety level.

§ 2-3 Notification

The Norwegian Railway Authority shall be notified of the construction of a new cableway.

A written notification to the Norwegian Railway Authority is required upon alteration of a cableway for the assessment of whether the alteration is of such a nature that a new operating permit is required.

§ 2-4. *Operating permit and alterations of importance to the operating permit*

The operation of cableways requires an operating permit. A cableway shall not be put in use prior to obtaining an operating permit. An operating permit is granted by the Norwegian Railway Authority after the applicant has proven that the cableway has and is operated at an acceptable safety level.

Subsystems and safety components in cableways for the transport of persons have to comply with the essential requirements in this regulation chapter 4, to be put on the market.

For cableways for the transport of persons granted an operating permit according to the regulations in force from May 3 2004, the requirements in this regulation chapter 1 through 4 apply.

For cableways for the transport of persons granted an operating permit according to the regulations prior to May 3 2004, the requirements in this regulation part I and II. Goods cableways and cable cranes must comply with requirements in chapter 5 and 6.

If significant modifications are made to a cableway for the transport of persons, the modifications and their consequences as a whole, must comply with the essential requirements in chapter 4.

When assessing whether a cableway is significantly altered, emphasis shall be placed on whether the alteration alters the characteristics or components described in the documentation which formed the basis for the initial operating permit.

2-5. *The application for operating permit*

The application for operating permit is sent to the Norwegian Railway Authority using the prescribed form. The application shall contain the technical description of the cableway with drawings, specification of the standards that are used, and the mode of operation. In addition, the relevant parts of the safety management system shall be included.

Application for operating permit will be determined as soon as possible and no later than four weeks after the date on which all of the required documentation is presented to the Norwegian Railway Authority.

§ 2-4. *The removal of the cableway*

A cableway that no longer have an operating permit shall be removed within one year from the termination of the operating permit. The Norwegian Railway Authority can make exceptions to the deadline if continued operation is probable.

§ 2-5. *The insurance obligation*

The cableway undertaking shall be insured and have security for any liability that may arise due to the cableway. In case of lacking insurance coverage or collateral to the Norwegian Railway Authority shall recall the operating permit.

Undertakings with more than one category of cableways, shall have insurance calculated based on the cableway with the greatest damage potential.

Undertakings with operating permits for one or more funiculars, chairlifts or bi-cable aerial ropeway to have an insurance coverage and collateral that is calculated from the potential damage the cableway represents.

The minimum required insurance coverage for certain categories of cableways:

a) Undertakings with an operating permit for one or more low level ski tow(s) should at least be insured with a coverage of 200 G.

b) Undertakings with an operating permit for one or more high level ski tow(s) should at least be insured with a coverage of 400 G.

c) Undertakings with an operating permit for one or more goods cableway(s) should at least be insured with a coverage of 200 G.

The insurance company where the cableway is insured must notify the Norwegian Railway Authority if the security lapses.

§ 2-8. *Notification obligation of cableway accidents and serious cableway events*

If a cableway accident resulting in serious personal injury occurs, the cableway undertaking shall immediately notify the police. The notification shall be given verbally

If an accident or serious incident occurs, the undertaking shall notify the Norwegian Railway Authority, and if needed, other relevant authorities.

§ 2-9. *The reporting obligation about cableway accidents, serious cableway incidents and cableway incidents*

The cableway undertaking shall report in writing to the Norwegian Railway Authority about cableway accidents and serious cableway events. The report is to be sent the Norwegian Railway Authority as soon as possible and at the latest within 72 hours. Cableway incidents should be reported to the Norwegian Railway Authority within 8 days. The reporting van be done electronically.

Reporting shall be made on the form established by the Norwegian Railway Authority.

§ 2-10. *Annual report*

The Norwegian Railway Authority may require the cableway undertakings to submit an annual report on matters that affect safety. The Norwegian Railway Authority determines the report contents and sets deadlines for submission.

§ 2-11. *Prohibition of transfer, etc.*

Operating permit is not transferable; including rent, lease, lend or otherwise transferred to others.

§ 2-12. *Requirement to have a safety management system*

The cableway undertaking must have a safety management system. The purpose of the safety management system is to manage the undertaking in order to operate safely.

§ 2-13. *Requirements to the safety management system*

The safety management system shall be documented and known by all operating personnel. The documentation shall be in Norwegian.

The safety management system shall be adapted to the nature and extent of the operation and contain the provisions required to control risks associated with it. .

The safety management system shall at minimum describe:

a) who are authorized to make decisions affecting operational safety.
b) the system for handling operational nonconformities
c) how regular risk assessments and associated action plans are to be implemented. The risk assessment shall be carried out using recognized methods. Nonconformities shall be part of the basis for the risk assessments.
d) instructions for
    i) the safe operation
    ii) control

iii) maintenance
When available, instructions from the supplier shall be used as a basis for the instructions. The instructions shall state the personnel responsible for their execution.

e) competence and training requirements for operational personnel, including requirements for competence in first aid and rescue.
f) Contingency plan for emergency situations. The plan should at least contain:
   i) emergency notification list (internal and external)
   ii) overview of equipment available for first aid and rescue, and the placement of this

Contingency plans for aerial cableways and funiculars shall in addition include:

   iii) detailed evacuation plans
   iv) procedures for the planning and execution of regular rescue exercises
   v) procedures for the subsequent evaluation and follow-up of rescue exercises
   vi) description and location of communication equipment and equipment for evacuation or lowering of passengers
   vii) documents comprising technical and operational data, records of repair, modifications, as well as inspections, tests and controls, and reports of these.

§ 2-14 *Supervision of operation*

The room or area where personnel are located to operate and monitor the cableway, shall be set up to allow the personnel a good view of the embarkation area and further up the track. The same applies if there is a need to monitor the disembarkation area. The personnel shall have easy access to a stopping device.

§ 2-15. *General requirements*

Cableways shall at all times allow the users to move about, embark and disembark without danger.

The track should be cleared, sufficiently wide and accessible.

The cableway stations shall have the necessary barriers to prevent that passengers are exposed to danger, e.g. injury caused by moving parts.

The embarking and disembarking station, shall have the necessary number of stop devices for use by the public. Ski tows shall have an automatic stopping device between the disembarking area and the return station, to prevent passengers from coming into contact with the mechanics in the end station.

Chapter 3. Requirements for the operation, the operating controls and maintenance of the cableways

§ 3-1. *General requirements to the operational personnel*

The operational personnel shall have the necessary knowledge, skills, experience and personal qualities for the tasks to be performed. Personnel that perform work that involves communication with users or that need to know the undertakings safety management system, shall master Norwegian.

The operational personnel shall intervene to prevent cableway accidents, serious cableway incidents and cableway incidents.

Operating personnel shall be at least 18 years old.

§ 3-2. *Operations Manager*

The cableway undertaking shall have an Operations Manager. Having an Operations Manager is a prerequisite to obtaining an operating permit. The Norwegian Railway Authority shall revoke the operating permit if the cableway undertaking no longer has an Operations Manager.

When changing Operations Managers, the cableway undertaking shall give written notice to the Norwegian Railway Authority with the name of the new Operations Manager and time of the change.

The requirement to have an Operations Manager does not apply to goods cableways.

Aerial cableways shall have a Deputy Operations Manager.

The Operations Manager shall have the authority to take the necessary measures to carry out the proper operation and maintenance of the facility. The Operations Manager has a duty to stop the operation of the cableway if safety concerns warrant it.

§ 3-3 *requirements to the operations manager*

Operations managers for cableway undertakings shall have the competence, skill, experience and personal qualities necessary for the job. The operations manager shall be at least 20 years old.

What qualification requirements the undertaking considers necessary shall be set out in the safety management system. As a minimum, the following areas of competence shall be included:

a) The law and regulation on cableways
b) Operating and management competeces
c) The safety management system's purpose and content
d) Contingencies
e) Technical knowledge, including the cableways construction and mode of operation, elements of risk of the operation, and the safety functions of the cableway
f) Knowledge of operation and operations control, including how to assess necessary manning level, required controls of the cableway prior to and during operations, and in what instances the cableway must be stopped
g) Knowledge of maintenance, including the planning, carrying out of, and follow-up of preventative maintenance and periodic controls
h) For aerial transport: competence on rescue operation exercises and contingencies, including planning, carrying out and evaluating rescue operation exercises, and manning, carrying out and managing rescue operations.

The operations manager shall complete a compulsory practical training period as operational personnel under the guidance of an operations manager with experience from a similar cableway. The training shall in particular cover letters c) to f) above. The minimum length of the training period shall be

a) For low level ski tows: 1 week
b) For ski tows: 1 month
c) For other cableways: 4 months

§ 3-4. *The staffing requirements for cableways*

Cableways shall be staffed with the necessary operational personnel to ensure the safety of the users, and to prevent cableway accidents, serious cableway incidents and cableway incidents.

The staffing requirements given by the supplier of the cableway shall be the basis for the undertaking's staffing requirements.

The undertaking shall in addition, when deciding the necessary staffing level, take into account conditions in the embarkment and disembarkment areas and other special operating conditions affecting the specific cableway.

For aerial cableways, the operations manager or deputy operations manager shall always be present or in the immediate vicinity. Aerial cableways shall have the necessary staffing to handle a need to evacuate.

§ 3-5. *Requirements for information and communication*

The operational personnel shall be able to easily communicate with each other and call for necessary assistance in case of accidents or serious incidents.

For aerial cableways for passenger transport it shall be possible to provide information to all passengers at the same time, under all circumstances.

§ 3-7. *Contingencies for aerial cableways and funiculars*

If the operation of the cableway is stopped in such a manner that the cableway is inoperable, the users are to be kept informed and, if necessary, evacuated in a safe way. Evacuation of the users from carriages shall be without the active participation of the users.

Rescue equipment shall be available at all time. An organized rescue service shall be organised so that the users ' life and health are not exposed to unacceptable risk. Even if the users' life and health are not exposed to unacceptable risk, the cableway shall be evacuated within the maximum time of two hours for carriages with chairs, and maximally three hours for carriages with closed cabins. The time is counted from the time the cableway stops until all passengers are brought to safety.

§ 3-7. *Rescue exercises for passenger aerial cableways and funiculars*

For aerial cableways and funiculars regular rescue exercises shall be conducted.

At a minimum, a larger rescue exercise with the cableway's own personnel shall be conducted at the beginning of each season. All rescue personnel shall participate, and it shall include *inter alia* practicing evacuation of the users.

The rescue exercises shall be evaluated, and the need for improvements shall be considered. The evaluation and consideration of improvements shall be documented.

§ 3-8. *Firefighting equipment*

Necessary firefighting equipment shall be available where necessary, for example, in the drivers room, operations room, computer room and at the stations. The type, number and size of the firefighting equipment is to be determined based on a need assessment.

§ 3-9. *First aid equipment*

Necessary first-aid equipment shall be available at the cableway.

§ 3-11. *Operational control*

Before the cableway operation starts, operating personnel must control that is the cableway is in proper operating order and that all safety devices work as intended. The operational manager shall assure the presence of adequate availability of rescue personnel.

In the event of cableway accidents, serious cableway incidents or other unforeseen disruptions, the cableway shall be inspected to ensure operational safety before it is operated again.

The cableway shall be continuously monitored and controlled when operated.

Before the ending an operation, the operational personnel shall ensure that the cableway is empty.

The cableway shall be locked when not in operation.

The control is to be carried out by qualified personnel. Completed controls shall be documented.

§ 3-11. *Magnetic inductive test*

Steel wire rope shall periodically be tested magnetic inductively or with other recognized methods.

Magnetic inductive tests shall be carried out according to the EN 12927-8 safety requirements for cableway installations for person transport Rope part 8: Magnetic inductive testing of rope. Time intervals for magnetic inductive tests are specified in EN 12927-7.

The person carrying out magnetic inductive test of the steel wire rope must either have accreditation which includes the magnetic inductive testing according to a recognized European standard, or be approved by a national European cableway authority to perform magnetic inductive testing of steel wire rope according to the national approval process.

Accepted documentation of the accreditation is accreditation proof from Norsk akkreditering or other accreditation bodies which is signatory to the multilateral agreement to the liaison for all accreditation bodies in Europe (the EA MLA).

Accepted documentation of approval from a European national cableway authority is an approval document issued by a national authority in addition to an acceptance document from the Norwegian Railway Authority.

Copy of the documentation in the third and fourth paragraph should be attached to the report from the magnetic inductive testing.

The cableway undertaking shall immediately send a copy of the report to the Norwegian Railway Authority after magnetic inductive testing of steel ropes An action plan is to be prepared based on the report. The action plan shall be sent to the Norwegian Railway Authority along the report.

The regulation of the testing of the steel wire rope that is used for cableways for goods follows in chapter 5 of this regulation.

§ 3-12. *Control and maintenance*

The cableway undertaking shall have procedures for control and maintenance of the cableway. Qualified personnel shall carry out the control and maintenance.

The control and maintenance of the cableway shall be conducted so that it prevents accidents and serious incidents. When operating the cableway during functional testing, test drive, or other types of control where the safety of the cableway may be reduced, it shall not transport passengers or goods.

The procedures shall describe proper periodic control, including control of the rope. Where there is a description of the control and maintenance from the supplier of the cableway, the manufacturer's description shall be followed.

In addition, the cableway undertaking shall consider the need for additional maintenance or shorter intervals than the manufacturer has recommended.

Controls and maintenance shall be documented.

For chair lifts, bi-cable aerial ropeway and funiculars, The Norwegian railway authority may require that special inspections that are carried out according to this article be carried out by an independent inspection body.

§ 3-14. *Signage*

The embarking and disembarking areas as well as along the track there shall be distinct signs with concise instructions and/or illustrations of how the users should act.

Safety switches should be clearly signposted.

Chapter 4. On making available on the market and the free movement of subsystems and safety components for use in cableway installations designed to transport persons. Requirements for the design, construction and putting into service of new cableway installations.

§ 4-1.

The EEA Agreement Annex II chapter XXIV. Machinery (Regulation (EU) 2016/424 of the European Parliament and of the Council of 9 March 2016 on cableway installations and repealing Directive 2000/9/EC) applies as a regulation with the adaptation that follows from Annex II. Technical Regulations, Standards, Testing and Certification.

Chapter 5. Additional requirements to the cableways for the transport of goods

§ 5-1. *Construction and dimensioning*

Where this regulation does not give detailed requirements with regard to design, materials, workmanship, etc., recognized standards and good practices are to be adhered.

Material ropeways should be designed and dimensioned to withstand the load from the intended load capacity and the maximum load from wind, snow and ice that have to be expected for the current location of the material ropeway.

§ 5-2. *Brakes*

The propulsion unit is to have an operating brake and a safety brake that works independently of each other, unless the cable is approved with a single brake.

Stoppage of the propulsion unit is to be triggered automatically when the voltage drops below the set limit for the path or disappears, or by overcurrent or thermal overload.

By operation of the safety brake or by the activation of the emergency stop the stoppage of the propulsion units shall be released.

§ 5-3. *Documentation when applying for operating permits*

When applying for operating permits for material ropeways the following documentation shall be included:

a) The overview plan showing the facilities' vertical pathways (profile) with the cables, stations and line support units. A scale no less than 1:1000 shall be used. In the drawing is to be set:

1. The height and length coordinates for the top of the line support units' foundations, the driving-and turning sheaves and storage points for carry, pull-and balance ropes,

2. Payload.

b) The calculation of the carry-, move-and balance rope, inclination and refraction angles, bearing pressure in line support structures, arrow heights and counterweight movement. Specification of carrying rope, move-and balance rope with indication of: the cable fabric, rope diameter, rope construction, nominal tensile strength of threads, the minimum effective fracture load and mass per length unit. For carrying ropes that are not tightened with a counterweight an E-module specification is required.

c) Calculation of safety against slippage of the pulling rope on the driving sheave.

d) Stations

1. Assembly drawings

2. Detail drawings of:

-Power transmitting parts between the driving machinery and operating sheave

-operating, turning and deflection sheaves

-Brakes

-Bearing steel structures

-Foundation

-Anchoring of carrying ropes.

3. Strength calculation of those in point 2. Specified parts. For rotating shafts to be fatigue calculations.

e) Tightening device

1. The Assembly drawing(s) with specification of tight rope and weight of the counterweight for the carrying- and pulling ropes. If other tightening devices are used (i.e. hydraulic tensioning):

- System description and construction drawings with specifications.

Specification of tight rope should include:

-Rope manufacturer, rope diameter, rope construction, nominal tensile strength in threads and specified the minimum effective fracture load.

2. Construction drawings of the hanging devices, load-bearing steel structures and sheaves.

3. Strength calculations.

f) Line support structures

1. Construction drawings with details of the sheave batteries and carrying rope shoe.

2. Foundation drawings.

3. Strength calculations.

g) Propulsion units, hanging sets, wagons

1. Assembly drawings of propulsion units, hanging sets and wagons stating the main dimensions and weights.

2. Construction drawings of propulsion units, hanging sets and wagons, and the connection between the pulling rope and hanging sets.

3. Strength calculation of those in point 2. specified parts.

4. Calculation of the wind speed that gives the no-load carriage a fluctuation of 12° across the path.

h) Electrical equipment

The principle- and circuit diagram with specifications for the electrical equipment.

i) Hydraulic equipment

System drawings and specifications of hydraulic equipment with strength calculation.

j) Safety management system

On the drawings, the material qualities and any non-destructive testing of the material shall be specified. For welded connections, welding method and application materials are to be specified, as well as potential heat treatment after welding and scope of any non-destructive testing services.

§ 5-4. *Control of steel wire rope*

The cableway undertaking are to have routines for the maintenance, control and replacement of carrying ropes, puling ropes, balance ropes and tightening ropes.

Steel wire ropes are to be repaired or replaced when cross-sectional reduction at any place on the rope exceeds the values in the following table.

	Reduction%	Measure length	Reduction%	Measure length	Reduction%	Measure length	Addition
Carrying ropes							
-closed	10	180xD	5	30xD			Line breakage of profile threads that are next to each other should have a minimum distance
-strands	20	180xD	10	20xD			Strand rope shall in one part have a maximum of 35% cross-sectional reduction due to thread breakage
-spiral rope	10						All thread breakages in the outer threads across the rope length shall be
Move-and balance rope	25	500xD	10	40xD	6	6xD	As above.
Tightening rope	8	40xD	4	6xD			As above.

Chapter 6 Requirements for cabel cranes

§ 6-1. Operating permit for cable cranes

Operating permit for cable cranes requires documented maintenance and risk analysis for the installation, operation and dismantling of the crane. The risk analysis shall be done according to recognized methods and by qualified personnel. There must be provisions to endure the safety og

personnel and third parties during the installation, operation and dismantling. Permits from other countries may form the basis for the operating permit.

Chapter 7. Administrative provisions

§ 7-1. *Supervision and enforcement*

The Norwegian railway authority supervises the compliance of this regulation and the individual decisions given in pursuance of this

§ 7-2. *Complaint*

Complaints about individual decisions made by the Norwegian Railway Authority in accordance with the regulation here, will be decided by the Ministry of transportation.

§ 7-3. *Notification to other government departments, etc.*

The Norwegian Railway Authority shall publish the references to national standards implementing European harmonized standards that are published in the Official Journal of the European Union.If it is determined that a safety component or subsystem does not meet the requirements of § 4-1 in this regulation, the Norwegian Railway Authority shall immediately inform the EFTA Surveillance Authority about the measures that are taken, and the reasons thereof.

If it turns out that a safety component that is provided with the CE-conformity marking is not in compliance with the current regulations, the Norwegian Railway Authority shall take the necessary measures on the one that has applied the CE conformity mark to the safety component and the one that has issued the EC-conformity declaration, cf. section 5-3 of the regulations here, and inform the EFTA Surveillance Authority and the Contracting Parties about this.

If a subsystem to which there exists an EC declaration of conformity is not in accordance with section 6-2 of the regulations here, the Norwegian Railway Authority shall take the necessary measures towards the one who issued the statement, cf. section 6-3, and inform the EFTA Surveillance Authority and the Contracting Parties about this.

If the Norwegian Railway Authority believes that a safety component, or a subsystem mentioned in Annex I, is designed or constructed with the use of an innovative method, the Authority shall take the measures necessary to meet the construction and/or operation of a facility in which such

innovative components or subsystems will be used. The Norwegian Railway Authority shall immediately inform the EFTA Surveillance Authority about this and explain the rationale.

The Ministry of Transport shall inform the EFTA Surveillance Authority about who will be appointed to a notified body. The Ministry of Transport shall inform the EFTA Surveillance Authority and other EEA countries if it turns out that the notified body no longer meets the requirements in annex VIII.

§ 7-4. *The entry into force*

The regulation enters into force July 1 2021. The regulation nr 908 on cableways of June 21 2017 is repealed as of the same date