banedanmark

ORF

Operational Rules for fjernbane

ORF-20-2 valid from 01.06.2020

Changes since previous version

IN.51

Change per 2020-06-01:

Hazardous goods
The tool and method in which the Railway Undertaking must registrate trains transporting hazardous goods is changed. The change applies to all operational rulesets.

Abbreviations
The abbreviation chapter is deleted as it is a core principle of the Operational Rules to avoid abbreviations as much as possible.

Where abbreviations cannot be avoided, the abbreviation is written into the text instead (e.g. driving modes, ATC, RFID etc.).

Main signal
A definition of main signal is added.

Missing rear indications
It is clarified that the permission to drive without rear indications can be given when it is identified during inspection, that the train cannot be driven with normal rear indications. The inspection can be done either before the train departs og during the mission.

Roles
Competency description is removed from the role definitions as competences is a matter for education and not regulated by operational rules.

For Driver, Shunter and Shunting area manager, the competency description contained a requirement for having necessary knowledge about infrastructure and location specific descriptions. These requirements are maintained as part of the role definition.

Track section
It is clarified that a track section can be limited by either two consecutive ETCS stop markers or by the transition point and an ETCS stop marker.

Editorial changes
Some editorial adjustments of language and minor clarification of instructions are made.

Deleted

Change per 2020-06-01:

~~Abbreviations~~Deleted

IN.8 Deleted

Change per 2020-06-01:

~~Akseltryk, Metervægt, Læsseprofil~~Deleted

IN.9 Deleted

Change per 2020-06-01:

~~Automatic Train Control~~Deleted

IN.11 Deleted

Change per 2020-06-01:

~~Driver Machine Interface~~Deleted

IN.12 Deleted

Change per 2020-06-01:

~~European Train Control System~~Deleted

IN.13 Deleted

Change per 2020-06-01:

~~Fjernbane KørestrømsInstruks~~Deleted

IN.14 Deleted

Change per 2020-06-01:

~~Full Supervision mode~~Deleted

IN.15 Deleted

Change per 2020-06-01:

~~Isolation mode~~Deleted

IN.17 Deleted

Change per 2020-06-01:

~~Movement Authority~~Deleted

IN.18 Deleted

Change per 2020-06-01:

~~Non Leading mode~~Deleted

IN.19 Deleted

Change per 2020-06-01:

~~Operations and Maintenance coordinator~~Deleted

IN.20 Deleted

Change per 2020-06-01:

~~On Sight mode~~Deleted

IN.21 Deleted

Change per 2020-06-01:

~~Person In Charge Of Possession~~Deleted

IN.22 Deleted

Change per 2020-06-01:

~~Person In Charge Of Site Safety~~Deleted

IN.23 Deleted

Change per 2020-06-01:

~~Post Trip mode~~Deleted

IN.46 Deleted

Change per 2020-06-01:

~~Radio-frequency identification~~Deleted

IN.24 Deleted

Change per 2020-06-01:

~~Regulations Concerning the International Carriage of Dangerous Goods by Rail~~Deleted

IN.25 Deleted

Change per 2020-06-01:

~~Standby mode~~Deleted

IN.26 Deleted

Change per 2020-06-01:

~~Supervisory Control And Data Acquisition~~Deleted

IN.27 Deleted

Change per 2020-06-01:

~~System Failure mode~~Deleted

IN.28 Deleted

Change per 2020-06-01:

~~Shunting mode~~Deleted

IN.29 Deleted

Change per 2020-06-01:

~~Staff Responsible mode~~Deleted

IN.30 Deleted

Change per 2020-06-01:

~~STM National mode~~Deleted

IN.31 Deleted

Change per 2020-06-01:

~~Not Applicable~~Deleted

IN.32 Deleted

Change per 2020-06-01:

~~Trip mode~~Deleted

IN.33 Deleted

Change per 2020-06-01:

~~Track Work Safety Coordinator~~Deleted

IN.34 Deleted

Change per 2020-06-01:

~~Unfitted mode~~Deleted

IN.35 Deleted

Change per 2020-06-01:

~~Vessel Traffic Service~~Deleted

Deleted

Change per 2020-06-01:

~~Introduction~~Deleted

IN.37 Deleted

Change per 2020-06-01:

~~The content of these rules are to be interpreted in compliance with the following regulatory documents:~~Deleted

IN.38 Deleted

Change per 2020-06-01:

~~1. LOV nr. 686 af 27/05/2015, Lov om jernbane, issued by the Danish Ministry of Transportation~~
~~2. BJ 5-3 2015, Bestemmelser for drifts - og trafikstyringsregler (DTR) på jernbaneområdet, issued by the Danish Transport Authority~~
~~3. ERTMS OPERATIONAL PRINCIPLES AND RULES, version 5, issued by the European Railway Agency - ERTMS unit~~
~~4. Technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union 2019/773, 16.05.2020, issued by the European Commission.~~Deleted

Roles

RF.1

Signaller

RF.2 DEFINITION

The Signaller works within the traffic control centre and is responsible for the day-to-day management and coordination of all operations within the area controlled by the Signaller. The Signaller must cooperate with all relevant parties to perform these duties.

The Signaller controls the operation of trains and maintenance operation in a designated control area by the use of the traffic management systems.

The Signaller must not perform the role of O&M coordinator simultaneously.

Change per 2020-06-01:

The Signaller works within the traffic control centre and is responsible for the day-to-day management and coordination of all operations within the area controlled by the Signaller. The Signaller must cooperate with all relevant parties to perform these duties.

The Signaller controls the operation of trains and maintenance operation in a designated control area by the use of the traffic management systems.

The Signaller must not perform the role of O&M coordinator simultaneously.

~~Competencies:~~

~~- The Signaller must maintain railway competences as a Signaller~~
~~- the Signaller must be competent in the use of the procedures and equipment provided for use in the workplace~~
~~- the Signaller must have sufficient knowledge of the infrastructure within the area of control to identify locations in the infrastructure and applicable rules and instructions.~~

RF.9

Driver

RF.10 DEFINITION

The Driver is responsible for the safe movement of a train or a vehicle. This includes observing the maximum permitted speed and controlling the brakes.

The Driver must have the necessary knowledge about the infrastructure and the location specific descriptions which apply to the area where the train will drive.

Change per 2020-06-01:

The Driver is responsible for the safe movement of a train or a vehicle. This includes observing the maximum permitted speed and controlling the brakes.

~~Competencies:~~

~~–~~The Driver must~~ maintain railway competences as a Driver~~
~~-~~have the~~ Driver must be competent in the~~necessary ~~use~~knowledge ~~of~~ about the ~~procedures~~infrastructure and~~ equipment provided for use in the workplace~~
~~-~~ the ~~Driver~~location ~~must~~specific ~~have~~descriptions ~~sufficient~~which ~~knowledge~~apply ~~of~~to the ~~infrastructure~~area where the train~~ or vehicle is to be driven to identify locations in the infrastructure and applicable rules and~~will ~~instructions~~drive.

RF.38

O&M coordinator

RF.39 DEFINITION

The O&M coordinator (Operations and Maintenance) is responsible for supervising the status of the infrastructure. The O&M coordinator is responsible for overall coordination of maintenance and fault correction and for ensuring that the relevant staff is called in for various tasks such as undetected points, axle counter faults, broken rails or balise errors.

The O&M coordinator must not perform the role of Signaller simultaneously.

Change per 2020-06-01:

The O&M coordinator (Operations and Maintenance) is responsible for supervising the status of the infrastructure. The O&M coordinator is responsible for overall coordination of maintenance and fault correction and for ensuring that the relevant staff is called in for various tasks such as undetected points, axle counter faults, broken rails or balise errors.

The O&M coordinator must not perform the role of Signaller simultaneously~~.~~

~~Competencies:~~

~~- The O&M coordinator must maintain railway competences as an O&M coordinator~~
~~- The O&M coordinator must have sufficient knowledge of the signalling system to be able to evaluate the implication of error messages and failures of technical equipment~~
~~- the O&M coordinator must be competent in the use of the procedures and equipment provided for use in the workplace~~.

RF.14

Shunter

RF.15 DEFINITION

The Shunter is responsible for the safe movement of rolling stock within a designated shunting area or on a route for shunting.

The Shunter can only be responsible for the movement of one train or vehicle at a time, and only in areas were the Shunter has the necessary knowledge about the infrastructure and the location specific descriptions which apply to the area.

The responsibilities of a Shunter can be performed by a Driver provided that the traction and brakes can be controlled from the front end cab for the direction of travel.

Change per 2020-06-01:

The Shunter is responsible for the safe movement of rolling stock within a designated shunting area or on a route for shunting.

The Shunter can only be responsible for the movement of one train or vehicle at a time.

The, responsibilitiesand ofonly ain Shunterareas canwere bethe performedShunter byhas athe Drivernecessary providedknowledge that about the tractioninfrastructure and brakes can be controlled from the frontlocation endspecific cabdescriptions forwhich theapply directionto of the travelarea.

Competencies:

–The Shunter must maintain railway competencesresponsibilities asof a Shunter
– the Shunter mustcan be competentperformed inby thea useDriver of provided that the rulestraction and instructionsbrakes specificcan tobe shuntingcontrolled operations
-from the Shunter mustfront haveend knowledgecab offor the relevant infrastructure and location specific descriptionsdirection of where the train is to be shuntedtravel.

RF.19

Shunting area manager

RF.20 DEFINITION

The Shunting area manager is responsible for the safe coordination of movements of rolling stock within a designated shunting area and has the necessary knowledge about the infrastructure and the location specific descriptions which apply to the area.

The Shunting area manager coordinates all entries and exits from the shunting area with the Signaller.

The responsibilities of a Shunting area manager can be performed by a Shunter.

Change per 2020-06-01:

The Shunting area manager is responsible for the safe coordination of movements of rolling stock within a designated shunting area and has the necessary knowledge about the infrastructure and the location specific descriptions which apply to the area.

The Shunting area manager coordinates all entries and exits from the shunting area with the Signaller.

The responsibilities of a Shunting area manager can be performed by a Shunter.

~~Competencies:~~

~~- The Shunting area manager must maintain railway competences as a Shunting area manager~~
~~- the Shunting area manager must be competent in the rules and instructions specific to shunting operations~~
~~- the Shunting area manager must have knowledge of the relevant infrastructure and location specific descriptions of the shunting area~~.

RF.34

Bridge guard

RF.35 DEFINITION

The Bridge guard is responsible for ensuring that the bridge infrastructure is safe for the passage of trains when required, and the bridge infrastructure is moved to accommodate the movement of other forms of traffic when required.

Change per 2020-06-01:

The Bridge guard is responsible for ensuring that the bridge infrastructure is safe for the passage of trains when required, and the bridge infrastructure is moved to accommodate the movement of other forms of traffic when required.

~~Competencies:~~

~~- The Bridge guard must maintain railway competences as a Bridge guard~~
~~- the Bridge guard must be competent in the use of the procedures and equipment provided for use in the workplace~~
~~- the Bridge guard must have knowledge of the infrastructure within the area of control and any additional requirements relating to the safe movement of other non-rail traffic.~~

RF.26

PICOSS

RF.27 DEFINITION

The Person in charge of site safety (PICOSS) is responsible for safety at any worksite where work takes place in the tracks or in close proximity to the tracks. A PICOSS is required both for planned work and for corrective maintenance.

Change per 2020-06-01:

The Person in charge of site safety (PICOSS) is responsible for safety at any worksite where work takes place in the tracks or in close proximity to the tracks. A PICOSS is required both for planned work and for corrective maintenance.

~~Competencies:~~

~~- The PICOSS must maintain railway competences as a PICOSS~~
~~- the PICOSS must be competent in the use of the procedures and equipment provided for carrying out their duties~~
~~- the PICOSS must have knowledge of the infrastructure where the work is to take place.~~

RF.45

Assistant PICOSS

RF.46 DEFINITION

The Assistant PICOSS assists the PICOSS and can only have the responsibility for part of the work under the control of the PICOSS.

Change per 2020-06-01:

The Assistant PICOSS assists the PICOSS and can only have the responsibility for part of the work under the control of the PICOSS.

~~Competencies:~~

~~- The Assistant PICOSS must maintain railway competences as a PICOSS~~
~~- the Assistant PICOSS must be competent in the use of the procedures and equipment provided for carrying out their duties~~
~~- the Assistant PICOSS must have knowledge of the infrastructure where the work is to take place.~~

RF.22

PICOP

RF.23 DEFINITION

The Person in charge of possession (PICOP) is responsible for railway safety including all movements taking place inside a possession agreed with the Signaller and all safety related communication regarding this. The communication between the PICOP and the Signaller is expected, but not limited, to take place by the use of a handheld terminal.

The PICOP performs the responsibilities of a Shunting area manager in a possession.

Change per 2020-06-01:

The Person in charge of possession (PICOP) is responsible for railway safety including all movements taking place inside a possession agreed with the Signaller and all safety related communication regarding this. The communication between the PICOP and the Signaller is expected, but not limited, to take place by the use of a handheld terminal.

The PICOP performs the responsibilities of a Shunting area manager in a possession.

~~Competencies:~~

~~- The PICOP must maintain railway competences as a PICOP~~
~~- the PICOP must be competent in the use of the procedures and equipment provided for carrying out their duty~~
~~- the PICOP must have knowledge of the infrastructure where the possession is to take place.~~

RF.48

Work supervisor

RF.49 DEFINITION

The Work supervisor is responsible for controlling and communicating with the PICOSS all issues regarding the technical installations where they are expected to have either a safety or a punctuality impact on the operation of the railway.

Change per 2020-06-01:

The Work supervisor is responsible for controlling and communicating with the PICOSS all issues regarding the technical installations where they are expected to have either a safety or a punctuality impact on the operation of the railway.

~~Competencies:~~

~~- The Work supervisor must have a proven competence in managing and handling the technical systems to be supervised.~~

RF.42

Maintainer

RF.43 DEFINITION

The Maintainer has specific technical skills and works in the infrastructure and/or surrounding railway buildings either with or without possession. The Maintainer may be accompanied by working units and other track vehicles.

Change per 2020-06-01:

The Maintainer has specific technical skills and works in the infrastructure and/or surrounding railway buildings either with or without possession. The Maintainer may be accompanied by working units and other track vehicles.

~~Competencies:~~

~~- The Maintainer must be competent in the use of the procedures and equipment provided for use in the workplace~~
~~- the Maintainer must be competent in evaluating the consequences of maintenance work to railway safety.~~

RF.51

Watchman

RF.52 DEFINITION

The Watchman is responsible for warning personnel working closer than 4 metres to the nearest rail where no possession has been established.

Change per 2020-06-01:

The Watchman is responsible for warning personnel working closer than 4 metres to the nearest rail where no possession has been established.

~~Competencies:~~

~~- The Watchman must maintain railway competences as a Watchman~~
~~- the Watchman must be competent in the use of the procedures and equipment used to carry out their duties.~~

RF.57

Visitor

RF.58 DEFINITION

A Visitor is a person assigned to perform a task within the safety distance of 4 metres from the nearest rail, but with a special permission to deviate from the requirement of possessing a valid railway ID card. A Visitor always receives a written instruction and is always accompanied by a staff.

Change per 2020-06-01:

A Visitor is a person assigned to perform a task within the safety distance of 4 metres from the nearest rail, but with a special permission to deviate from the requirement of possessing a valid railway ID card. A Visitor always receives a written instruction and is always accompanied by a staff.

~~Competencies:~~
~~- The Visitor must be able to understand and follow instructions given by the accompanying staff.~~

RF.60

Contractor

RF.61 DEFINITION

The Contractor is a company that contracts to undertake work within the infrastructure managed by Banedanmark. The contractor is responsible for ensuring that any work that is planned to take place has employed the necessary safety measures.

Change per 2020-06-01:

The Contractor is a company that contracts to undertake work within the infrastructure managed by Banedanmark.

~~Competencies:~~

~~-~~ The ~~- Contractor must be competent in the use of~~ the contractor ~~rules~~is ~~and~~responsible ~~instructions~~for ~~specific~~ensuring ~~to~~that ~~infrastructure~~any work
~~-~~ ~~the~~that ~~Contractor~~is ~~must~~planned ~~keep~~to ~~a~~take ~~valid~~place ~~Banedanmark~~has ~~license~~employed ~~to~~the ~~perform~~necessary ~~infrastructure~~ safety ~~work~~measures.

RF.63

TWSC

RF.64 DEFINITION

In the case of infrastructure works, the Track Work Safety Coordinator (TWSC) is responsible for assessing railway safety, to approve railway safety plans, to supervise the execution of infrastructure works and ensuring compensatory measures, if the safety level is lowered.

Change per 2020-06-01:

~~The Track Work Safety Coordinator (TWSC) approves and audits work to~~ In ~~take~~the ~~place~~case ~~on~~of ~~or~~infrastructure ~~near~~works, the ~~railway~~Track ~~infrastructure.~~Work ~~The~~Safety Coordinator (TWSC) is responsible for ~~ensuring that any work that is planned to take place has employed~~ the assessing ~~necessary~~railway safety ~~measures and will provide assistance,~~ to ~~the Contractor~~approve ~~and~~railway ~~the~~safety ~~client~~plans, to ~~determine what measures are appropriate and~~ ~~while~~supervise the ~~work is taking place~~execution ~~they~~of ~~shall~~infrastructure ~~audit~~works and ~~assure~~ ~~that~~ ensuring ~~the~~compensatory measures ~~have been employed.~~

~~Competencies~~

~~- The TWSC must maintain railway competences as a TWSC~~
~~- the TWSC must have a detailed knowledge of railway safety legislation, railway safety procedures and best practice guidelines for the correct and safe use of maintenance equipment~~ ~~and~~if the ~~application~~safety ~~of~~level ~~maintenance~~is ~~processes~~lowered.

RF.30

Catenary manager

RF.31 DEFINITION

The Catenary manager is the person in charge of supervising and monitoring the catenary system. The Catenary manager is competent in high voltage regulations and assesses and supervises catenary isolations in all operational situations.

Change per 2020-06-01:

The Catenary manager is the person in charge of supervising and monitoring the catenary system. The Catenary manager is competent in high voltage regulations and assesses and supervises catenary isolations in all operational situations.

~~Competencies:~~

~~- The Catenary manager must be competent in the use of the procedures and equipment provided for use in the workplace~~
~~- the Catenary manager must have sufficient knowledge of the infrastructure within the area of control to identify locations in the infrastructure and applicable rules and instructions.~~

RF.66

Catenary field leader

RF.67 DEFINITION

The Catenary field leader is competent in high voltage regulations, and has been appointed through written instructions by the Catenary manager to be responsible for catenary worksite safety.

Change per 2020-06-01:

The Catenary field leader is competent in high voltage regulations, and has been appointed through written instructions by the Catenary manager to be responsible for catenary worksite safety.

~~Competencies:~~

~~- The Catenary field leader must be competent in the use of the procedures and equipment provided for use in the workplace~~
~~- the Catenary field leader must have sufficient knowledge of the infrastructure within the area of the worksite to identify locations in the infrastructure and applicable rules and instructions.~~

RF.69

Network manager

RF.70 DEFINITION

The Network manager is reponsible for coordinating the railway traffic during disruptions, in cooperation with the Signaller, Railway Undertakings, Emergency services, Contractors and others using or working on the rail network managed by Banedanmark.

Change per 2020-06-01:

The Network manager is reponsible for coordinating the railway traffic during disruptions, in cooperation with the Signaller, Railway Undertakings, Emergency services, Contractors and others using or working on the rail network managed by Banedanmark.

~~Competencies:~~

~~- The Network manager must be able to communicate with all parties involved in railway operations~~
~~- the Network manager must be competent in the use of emergency procedures to act efficiently as liaison to Emergency services.~~

RF.73

Person responsible for traffic operation

RF.74 DEFINITION

The Person responsible for traffic operation is responsible for ensuring traffic operation takes place according to rules and regulations and that necessary competence and resource is available to perform the traffic operation tasks. The Person responsible for traffic operation agrees and coordinates temporary rules and railway safety issues.

If parts of the responsibility are delegated a written agreement must be produced describing the detailed and specific placement of the responsibility.

Change per 2020-06-01:

The Person responsible for traffic operation is responsible for ensuring traffic operation takes place according to rules and regulations and that necessary competence and resource is available to perform the traffic operation tasks. The Person responsible for traffic operation agrees and coordinates temporary rules and railway safety issues.

If parts of the responsibility are delegated a written agreement must be produced describing the detailed and specific placement of the responsibility.

~~Competencies:~~

~~- The Person responsible for traffic operation must be knowledgeable of the procedures and regulation governing traffic operation and railway safety.~~

RF.77

Person responsible for technical operation

RF.78 DEFINITION

The Person responsible for technical operation is a technical specialist responsible for the operational condition of the technical installations of the Banedanmark rail network.

Change per 2020-06-01:

The Person responsible for technical operation is a technical specialist responsible for the operational condition of the technical installations of the Banedanmark rail network.

~~Competencies:~~

~~- The Person responsible for technical operation must be knowledgeable of the specific procedures and regulations governing technical installations and railway safety within their area of specialist knowledge (eg. tracks, catenary, signalling).~~

RF.81

Banedanmark incident investigator

RF.82 DEFINITION

During accidents or safety related incidents, the Banedanmark incident investigator is responsible for carrying out the immediate incident investigation.

During accidents, the Banedanmark incident investigator has authority to implement and manage the necessary measures to assist the Emergency services in ensuring that the tracks are cleared and the service is restored.

The Banedanmark incident investigator makes the necessary coordination of the investigations with both external authorities, internal units and railway undertakings.

The Banedanmark incident investigator is responsible for cooperation with the Danish Accident Investigation Board.

The Banedanmark incident investigator is authorised to revoke any permission to perform safety related tasks from any staff if:

- Severe violations of safety regulations have been observed **...or**
- considerable safety considerations have been ignored **...or**
- questionable staff competence has been observed.

Change per 2020-06-01:

During accidents or safety related incidents, the Banedanmark incident investigator is responsible for carrying out the immediate incident investigation.

During accidents, the Banedanmark incident investigator has authority to implement and manage the necessary measures to assist the Emergency services in ensuring that the tracks are cleared and the service is restored.

The Banedanmark incident investigator makes the necessary coordination of the investigations with both external authorities, internal units and railway undertakings.

The Banedanmark incident investigator is responsible for cooperation with the Danish Accident Investigation Board.

The Banedanmark incident investigator is authorised to revoke any permission to perform safety related tasks from any staff if:

- Severe violations of safety regulations have been observed ...or
- considerable safety considerations have been ignored ...or
- questionable staff competence has been observed.

~~Competencies:~~

~~- The Banedanmark incident investigator must maintain railway competences as an incident investigator~~
~~- the Banedanmark incident investigator must have knowledge about procedures and instructions providing railway safety.~~

Definitions

OR.DEF.683

DMI symbols and marker boards

OR.DEF.211

Indicated running level

OR.DEF.212 DEFINITION

The active running level is indicated on the DMI by a level indication. The level indicates how the train is supervised and the operational rules that must be applied by the Driver.

The route book contains information identifying the level of the train control system for the infrastructure.

Responsibilities

OR.DEF.213 Driver

When the symbol for running in level 0 is displayed you must observe operational rules for the level 0 area.

OR.DEF.214 Driver

When the symbol for running in level ATC (Automatic Train Control) is displayed you must observe operational rules for the level ATC area.

Change per 2020-06-01:

When the symbol for running in level ATC (Automatic Train Control) is displayed you must observe operational rules for the level ATC area.

OR.DEF.215 Driver

When the symbol for running in level 2 is displayed you must observe operational rules for the level 2 area.

OR.DEF.216 Driver

You must bring the train to a standstill and inform the Signaller when the level indicated on the DMI is not consistent with the infrastructure you are occupying.

OR.DEF.18

FS-mode

OR.DEF.19 DEFINITION

FS-mode (Full Supervision mode) is a fully supervised driving mode offered to the onboard by the signalling system. FS-mode cannot be selected by the Driver.

FS-mode allows movements on a FS MA with the signalling system ensuring that the technical conditions for issuing a movement authority are met.

The train is supervised to the most restrictive speed profile. This takes into account the allowed speed of train consist, line speed, speed restrictions, level crossing restrictions and an end of authority.

The supervision is based on the speed and location of the train to ensure that the train remains within the speed and distance limits.

Change per 2020-06-01:

FS-mode (Full Supervision mode) is a fully supervised driving mode offered to the onboard by the signalling system. FS-mode cannot be selected by the Driver.

FS-mode allows movements on a FS MA with the signalling system ensuring that the technical conditions for issuing a movement authority are met.

The train is supervised to the most restrictive speed profile. This takes into account the allowed speed of train consist, line speed, speed restrictions, level crossing restrictions and an end of authority.

The supervision is based on the speed and location of the train to ensure that the train remains within the speed and distance limits.

Responsibilities

OR.DEF.20 Driver

You must control the train within the permitted speed indicated on the DMI as long as the symbol for FS-mode is shown on the DMI.

If the text message "Entering FS" is displayed on your DMI you must observe any speed restriction related to the part of your train not yet covered by the FS MA. The speed must not exceed 25 km/h when the message is indicated while driving from a possession or shunting area and 40 km/h when the message is indicated while driving in an interlocked area.

OR.DEF.305

IS-mode

OR.DEF.306 DEFINITION

IS-mode (Isolation mode) is a driving mode used under onboard failure conditions when the onboard has been isolated and the interface between the onboard and the brakes completely bypassed. No onboard supervision of train movement is available in IS-mode.

Maximum permitted speed in IS-mode is 40 km/h.

A clear indication of the onboard being isolated is available to the Driver. A train in IS-mode will be indicated on the signalling control display as a train with isolated onboard.

No indications are available on the DMI when in IS-mode.

Movements in IS-mode are unsupervised movements authorised by an Operational Instruction from the Signaller. Trains are only moved in IS-mode as far as practicable and do not form part of the normal service. To exit IS-mode the onboard must be reinstated by a maintainer.

Change per 2020-06-01:

IS-mode (Isolation mode) is a driving mode used under onboard failure conditions when the onboard has been isolated and the interface between the onboard and the brakes completely bypassed. No onboard supervision of train movement is available in IS-mode.

Maximum permitted speed in IS-mode is 40 km/h.

A clear indication of the onboard being isolated is available to the Driver. A train in IS-mode will be indicated on the signalling control display as a train with isolated onboard.

No indications are available on the DMI when in IS-mode.

Movements in IS-mode are unsupervised movements authorised by an Operational Instruction from the Signaller. Trains are only moved in IS-mode as far as practicable and do not form part of the normal service. To exit IS-mode the onboard ~~is proven safe~~must ~~for~~be ~~service~~reinstated by a maintainer.

Responsibilities

OR.DEF.307 Driver

When the onboard is isolated, you must only move your train according to Operational Instructions received from the Signaller, or according to authority provided by the Shunter.

When driving in IS-mode you must observe the conditions of on sight.

OR.DEF.54

NL-mode

OR.DEF.55 DEFINITION

NL-mode (Non Leading mode) is when one or more traction units are mechanically, but not electrically coupled to the leading traction unit and a Driver is required to control the non-leading traction unit.

The onboard will not supervise movement authorities but only display information on speed and track conditions on the DMI.

Change per 2020-06-01:

NL-mode (Non Leading mode) is when one or more traction units are mechanically, but not electrically coupled to the leading traction unit and a Driver is required to control the non-leading traction unit.

The onboard will not supervise movement authorities but only display information on speed and track conditions on the DMI.

Responsibilities

OR.DEF.56 Driver

You may only select NL-mode when instructed by the Driver of the leading cab to provide additional traction as an assisting Driver.

You are responsible as Driver of the non-leading traction unit for obeying the orders associated to track conditions when they are displayed on the DMI, but it is the Driver of the leading traction unit who has the overall responsibility for driving the train.

OR.DEF.81

OS-mode

OR.DEF.82 DEFINITION

OS-mode (On Sight mode) is a supervised driving mode offered to the onboard by the signalling system. OS-mode cannot be selected by the Driver.

OS-mode allows movements on an OS MA in situations where a track could be occupied by another train or any kind of obstacle.

The train is supervised to a maximum speed of 40 km/h, speed restrictions and a target distance.

Change per 2020-06-01:

OS-mode (On Sight mode) is a supervised driving mode offered to the onboard by the signalling system. OS-mode cannot be selected by the Driver.

OS-mode allows movements on an OS MA in situations where a track could be occupied by another train or any kind of obstacle.

The train is supervised to a maximum speed of 40 km/h, speed restrictions and a target distance.

Responsibilities

OR.DEF.83 Driver

You must observe the conditions of on sight as long as the symbol for OS-mode is shown on the DMI.

If the text message "Entering OS" is displayed on your DMI you must observe any speed restrictions below 40 km/h related to the part of your train not yet covered by the OS MA. The speed must not exceed 25 km/h when the message is indicated while driving from a possession or shunting area.

OR.DEF.195

PT-mode

OR.DEF.196 DEFINITION

The onboard enters PT-mode (Post Trip mode) when the Driver has acknowledged TR-mode. In PT-mode the emergency brake can be released. If the change to TR-mode is caused by an emergency stop the onboard will wait for the emergency stop to be revoked before the onboard can receive a movement authority.

The change to PT-mode is reported by the onboard to the signalling system.

Change per 2020-06-01:

The onboard enters PT-mode (Post Trip mode) when the Driver has acknowledged TR-mode. In PT-mode the emergency brake can be released. If the change to TR-mode is caused by an emergency stop the onboard will wait for the emergency stop to be revoked before the onboard can receive a movement authority.

The change to PT-mode is reported by the onboard to the signalling system.

Responsibilities

OR.DEF.197 Driver

When you have acknowledged TR-mode the symbol for PT-mode will be shown on the DMI and you must remain at standstill and inform the Signaller or Shunter.

OR.DEF.448

SB-mode

OR.DEF.449 DEFINITION

SB-mode (Standby mode) is the default standby mode of the onboard. SB-mode cannot be selected by the Driver but is entered automatically on closing the desk or exiting SH-mode.

Train awakening is performed from SB-mode. Onboard train data can be entered and updated by the Driver when in SB-mode.

In SB-mode, the train is supervised against runaway movements.

Change per 2020-06-01:

SB-mode (Standby mode) is the default standby mode of the onboard. SB-mode cannot be selected by the Driver but is entered automatically on closing the desk or exiting SH-mode.

Train awakening is performed from SB-mode. Onboard train data can be entered and updated by the Driver when in SB-mode.

In SB-mode, the train is supervised against runaway movements.

Responsibilities

OR.DEF.450 Driver

When the symbol on the DMI indicates the train is in SB-mode you must not attempt to move the train.

You may, however, move the train up to 1 metre in SB-mode when it is required for splitting of the train.

OR.DEF.157

SF-mode

OR.DEF.158 DEFINITION

SF-mode (System Failure mode) is an onboard state that prevents any further movements using ETCS. It is entered automatically when the onboard detects a safety critical failure.

When the onboard equipment is in SF-mode, the emergency brakes are applied.

Change per 2020-06-01:

SF-mode (System Failure mode) is an onboard state that prevents any further movements using ETCS. It is entered automatically when the onboard detects a safety critical failure.

When the onboard equipment is in SF-mode, the emergency brakes are applied.

Responsibilities

OR.DEF.159 Driver

When the symbol indicating SF-mode is displayed on the DMI you must consider the onboard as failed.

OR.DEF.130

SH-mode

OR.DEF.131 DEFINITION

In SH-mode (Shunting mode) the onboard equipment supervises the train movements against a speed limit of 25 km/h.

SH-mode can be requested by the Driver, or ordered by the signalling system as part of a movement authority into a possession or shunting area.

If the train exceeds the SH-mode speed limit an automatic brake application will be applied.

The SH-mode does not require any onboard train data to be entered by the Driver.

Change per 2020-06-01:

In SH-mode (Shunting mode) the onboard equipment supervises the train movements against a speed limit of 25 km/h.

SH-mode can be requested by the Driver, or ordered by the signalling system as part of a movement authority into a possession or shunting area.

If the train exceeds the SH-mode speed limit an automatic brake application will be applied.

The SH-mode does not require any onboard train data to be entered by the Driver.

Responsibilities

OR.DEF.700 Driver

If SH-mode is not ordered by the signalling system you may only request SH-mode by pressing the "Shunting" button on the DMI when instructed by the Shunter.

OR.DEF.132 Driver

When the symbol on the DMI indicates the train is in SH-mode you must observe the rules for shunting.

You must only move your train when authorised by the Shunter.

OR.DEF.149

SN-mode

OR.DEF.150 DEFINITION

Running in SN-mode (STM National mode) enables ETCS equipped trains to use the STM to run on lines equipped with train control systems other than ETCS. Trains in SN-mode run in level ATC.

SN-mode is the standard driving mode for trains operating in level ATC, and is only available in level ATC.

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SN-mode is the standard driving mode for trains operating in level ATC, and is only available in level ATC.

Responsibilities

OR.DEF.151 Driver

When the symbol for SN-mode is indicated on your DMI you must check that the mode is appropriate for your location and you must observe operational rules valid for the line concerned.

OR.DEF.146

SR-mode

OR.DEF.147 DEFINITION

SR-mode (Staff Responsible mode) is a driving mode used in degraded situations. SR-mode is selected by the Driver using the override function, or offered by the signalling system for the Driver to acknowledge.

SR-mode enables the train to move whenever a movement authority cannot be issued by the signalling system. The authority to select or acknowledge SR-mode can only come from the Signaller using an Operational Instruction.

Train movements are supervised to a maximum permitted speed of 40 km/h and against running in the direction opposite to the direction faced by the active cab.

Change per 2020-06-01:

SR-mode (Staff Responsible mode) is a driving mode used in degraded situations. SR-mode is selected by the Driver using the override function, or offered by the signalling system for the Driver to acknowledge.

SR-mode enables the train to move whenever a movement authority cannot be issued by the signalling system. The authority to select or acknowledge SR-mode can only come from the Signaller using an Operational Instruction.

Train movements are supervised ~~against:~~

~~-~~to ~~Maximum~~a maximum permitted speed of 40 km/h
~~-~~ and against running in the direction opposite to the direction faced by the active cab.

Responsibilities

OR.DEF.148 Driver

Before using the override function you must receive an Operational Instruction and check the applicable speed limit. Following the use of the override function the symbol for running in SR-mode is displayed on the DMI.

When driving in SR-mode you must observe the conditions of on sight.

OR.DEF.460

Start of ATC-signalling

OR.DEF.461 DEFINITION

Start of ATC-signalling (Automatic Train Control) is a collective term of start of ATC-signalling and start of ATC-togstop-signalling.

The start of ATC-signalling is the location at which signalling is transferred to ATC-signalling.

Change per 2020-06-01:

Start of ATC-signalling (Automatic Train Control) is a collective term of start of ATC-signalling and start of ATC-togstop-signalling.

The start of ATC-signalling is the location at which signalling is transferred to ATC-signalling.

Responsibilities

OR.DEF.462 Driver

When passing the location of the start of ATC-signalling marker you must observe operational rules for the level ATC area.

OR.DEF.707 Driver

When passing the location of the start of ATC-togstop-signalling marker you must observe operational rules for the level ATC area.

OR.DEF.464 Signaller

You must only coordinate train movements up to the start of ATC-signalling marker.

Authority over the transition area is shared between the two Signallers controlling the adjacent track sections.

OR.DEF.188

TR-mode

OR.DEF.189 DEFINITION

TR-mode (Trip mode) is an irrevocable application of the emergency brakes by the onboard until the train is at a standstill and enters post trip. TR-mode is triggered by a failure, an attempt to pass an end of authority or by the Signaller applying an emergency stop.

The TR-mode removes the movement authority and the change to TR-mode is reported by the onboard to the signalling system.

Change per 2020-06-01:

TR-mode (Trip mode) is an irrevocable application of the emergency brakes by the onboard until the train is at a standstill and enters post trip. TR-mode is triggered by a failure, an attempt to pass an end of authority or by the Signaller applying an emergency stop.

The TR-mode removes the movement authority and the change to TR-mode is reported by the onboard to the signalling system.

Responsibilities

OR.DEF.190 Driver

When the symbol for TR-mode is displayed on the DMI you must assume that there is a dangerous situation. You must perform all actions necessary to avoid or reduce the effect of this situation.

OR.DEF.227

UN-mode

OR.DEF.228 DEFINITION

Driving in UN-mode (Unfitted mode) is used for driving in an area not equipped with ETCS or ATC. Rules for driving in UN-mode are not contained in these Operational Rules.

UN-mode only supervises to a ceiling speed set to 120 km/h and is a driving mode used for driving in a level 0 area. UN-mode cannot be selected by the Driver but is entered during start of mission when level 0 is selected or following transition into a level 0 area.

Route book and location specific descriptions will give information on permissible speed limits.

Change per 2020-06-01:

Driving in UN-mode (Unfitted mode) is used for driving in an area not equipped with ETCS or ATC. Rules for driving in UN-mode are not contained in these Operational Rules.

UN-mode only supervises to a ceiling speed set to 120 km/h and is a driving mode used for driving in a level 0 area. UN-mode cannot be selected by the Driver but is entered during start of mission when level 0 is selected or following transition into a level 0 area.

Route book and location specific descriptions will give information on permissible speed limits.

Responsibilities

OR.DEF.229 Driver

You must control your train according to the operational rules of the level 0 area as long as you remain in the level 0 area. The symbol for UN-mode on the DMI indicates that only a ceiling speed of 120 km/h is supervised by the onboard.

OR.DEF.695

Infrastructure

OR.DEF.892

Main signal

Change per 2020-06-01:

Main signal

OR.DEF.893 DEFINITION

Change per 2020-06-01:

Main signal is the collective term used for trackside signals in level 0 or level ATC which can show a "Stop" aspect.

OR.DEF.530

Track section

OR.DEF.531 DEFINITION

A track section is a predefined part of the infrastructure limited by either two consecutive ETCS stop markers or by the transition point and an ETCS stop marker.

One track section may include several axle counter sections.

Change per 2020-06-01:

A track section is a predefined part of the infrastructure limited by either two consecutive ETCS stop markers or by the transition point and an ETCS stop marker.

One track section may include several axle counter sections.

OR.DEF.686

Driving

OR.DEF.1

DMI

OR.DEF.2 DEFINITION

The DMI (Driver Machine Interface) is a screen that is a part of the onboard train control system. The DMI is installed in the Driver's desk to enable communication between the train control system and the driver.

The DMI indicates to the Driver the necessary signalling information to allow for supervised train movements.

For fully supervised movements the DMI will display an authority to move. For all other movements the DMI will display the driving mode indicating to the Driver under which conditions the train must be driven.

Change per 2020-06-01:

The DMI (Driver Machine Interface) is a screen that is a part of the onboard train control system. The DMI is installed in the Driver's desk to enable communication between the train control system and the driver.

The DMI indicates to the Driver the necessary signalling information to allow for supervised train movements.

For fully supervised movements the DMI will display an authority to move. For all other movements the DMI will display the driving mode indicating to the Driver under which conditions the train must be driven.

Responsibilities

OR.DEF.3 Driver

You must observe information displayed on the DMI and react as instructed in the operational rules. You must control the speed of the train to the lowest permissible speed, taking into consideration the information provided on the DMI and any other restrictions from persons authorising the movement or from location specific restrictions.

You must consider a failed DMI or an unreadable DMI as a failure in the onboard train control system.

If you have reason to believe that the information displayed on the DMI is faulty or not intended for your train, you must bring the train to a standstill and contact the Signaller.

OR.DEF.687

Preparing a mission

OR.DEF.515

Hazardous goods

OR.DEF.516 DEFINITION

Hazardous goods are goods classified in the RID register. All hazardous goods are identified by an UN-number and a RID-classification.

Hazardous goods, which can be misused in a terrorist event, is referred to as high consequence hazardous goods.

Hazardous goods are not transported by passenger trains.

Any additional provisions for the transport of Hazardous goods through tunnels are found in local instructions.

RID regulations as further rules on loading, handling and transporting RID cargo is not to be found in these rules but in the source rules on RID.

Change per 2020-06-01:

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Hazardous goods, ~~are~~which ~~carried~~can be misused in ~~trains~~a ~~that~~terrorist ~~does~~event, is referred to as high consequence hazardous goods.

Hazardous goods are not ~~carry~~transported ~~passengers~~ by passenger trains.

Any additional provisions for the transport of Hazardous goods through tunnels are found in local instructions.

RID regulations as further rules on loading, handling and transporting RID cargo is not to be found in these rules but in the source rules on RID.

OR.DEF.648

Missing rear end indication

OR.DEF.649 DEFINITION

Missing rear end indications is a permission to allow a single train to run without rear indications when it has been identified during inspection of the train, that the train cannot run with normal rear indication.

The permission is given by the Network manager over a specified portion of the network following a request from the Railway Undertaking. The Network manager ensures that all affected Signallers are informed.

Change per 2020-06-01:

Missing rear end indications is ~~an~~a ~~exception~~permission to allow a single train to run without rear indications when it has been identified during inspection of the train, that the train cannot run with normal rear indication.

~~By request~~The ~~from~~permission ~~the~~is ~~Railway~~given ~~Undertaking,~~by the Network manager ~~can~~over ~~allow~~a specified portion of the network following a ~~single~~request ~~train~~from ~~to~~the ~~run~~Railway ~~with~~Undertaking. ~~missing~~The ~~rear~~Network ~~end~~manager ~~indications~~ensures ~~after~~that all ~~Signallers~~ ~~concerned~~affected ~~have~~Signallers ~~been~~are informed.

Responsibilities

OR.DEF.650 Signaller — You must ensure that information about a train with missing rear end indications is entered into the Signaller log.

OR.DEF.651 Signaller — To authorise a train into a track section which is indicated as occupied, following a train with missing rear end indications, you must verify that the train has completely vacated the area before allowing an OS MA or Operational Instruction into the track section indicated as occupied.

OR.DEF.689

Signalling System

OR.DEF.517

Movement authority

OR.DEF.518 DEFINITION — A movement authority (MA) is the permission from the signalling system that defines the conditions under which the train is authorised to move forward on the track ahead.

Movement authorities are controlled by the signalling system.

Change per 2020-06-01:

A movement authority (MA) is the permission from the signalling system that defines the conditions under which the train is authorised to move forward on the track ahead.

Movement authorities are controlled by the signalling system.

Responsibilities

OR.DEF.519 Driver — If no movement authority is obtained when expected, you must inform the Signaller.

Procedures

1947

Normal operation

3807

Handling of hazardous goods

3808 Precondition

A train has been prepared for service. The train will transport hazardous goods.

3809 Purpose

Ensure that Banedanmark is informed of trains transporting hazardous goods. And that all affected Signallers are informed of this as necessary.

PROCEDURE

3811 Railway Undertaking

The Railway Undertaking must have a procedure which ensures that the wagon list of the train is registered according to the method of reporting as specified by Banedanmark.

The registration must include:

- Location of the wagons in the train
- wagon type if it cannot be deduced from the wagon number
- UN number, RID class and packing group for each wagon
- quantity of hazardous goods on each wagon specified in kg or liters, according to RID
- high consequence hazardous goods according to RID.

If the train contains wagons which carry trailers, then the notification must also state whether this is tank or mixed goods transport.

The Railway Undertaking must also ensure that the Driver, as a minimum, has been provided with the information required by RID before starting the mission. It must also be ensured that the train is not reported ready for departure to the Driver before the wagon list has been registrated according to the method of reporting as specified by Banedanmark.

The Railway Undertaking must inform the Network manager about trains which includes wagons transporting hazardous goods with label 1, 1.5 or 1.6 (see appendix B).

The Railway Undertaking must only report trains which includes wagons transporting hazardous goods with label 1, 1.5 or 1.6 ready for departure to the Driver, when the Network manager has reported that all affected Signallers have confirmed the receival of the hazardous goods transport report.

Lastly, the Railway Undertaking must ensure that its relevant shunters, are informed if the wagons are provided with label 1, 1.5 or 1.6.

Change per 2020-06-01:

The Railway Undertaking must ~~ensure~~have ~~that~~a ~~the~~procedure ~~Network~~which ~~manager~~ensures ~~is~~that ~~informed~~the ~~about~~wagon ~~trains~~list ~~transporting~~of ~~hazardous~~the ~~goods~~train ~~by~~is ~~sending~~ registered ~~a~~according ~~copy~~to the method of ~~the~~reporting ~~train's~~as ~~wagons~~specified ~~list.~~by Banedanmark.

The ~~report~~registration must include:

- Location of the wagons in the train
- wagon type if it cannot be deduced from the wagon number
- UN number, RID class and packing group for each wagon
- quantity of hazardous goods on each wagon specified in kg or liters, according to RID
- high consequence hazardous goods according to RID.

If the train contains wagons which carry trailers, then the notification must also state whether this is tank or mixed goods transport.

The Railway Undertaking must also ensure that the Driver, as a minimum, has been provided with the information required by RID before starting the mission. It must also be ensured that the train is not reported ready for departure to the Driver before the wagon list has been registrated according to the method of reporting as specified by Banedanmark.

The Railway Undertaking must inform the Network manager about trains which includes wagons transporting hazardous goods with label 1, 1.5 or 1.6 (see appendix B).

The Railway Undertaking must only report trains which includes wagons transporting hazardous goods with label 1, 1.5 or 1.6 ready for departure to the Driver, when the Network manager has ~~confirmed~~reported that all affected Signallers have confirmed the receival of the hazardous goods transport report ~~is received~~.

Lastly, the Railway Undertaking must ensure that its relevant shunters, are informed if the wagons are provided with label 1, 1.5 or 1.6 ~~(see appendix B)~~.

3812 Network manager Deleted

Change per 2020-06-01:

~~When the network manager receives a wagon list from the Railway undertaking, which reports that a train is transporting hazardous goods, the Network manager must confirm the receival of the report to the Railway Undertaking.~~

~~The report from the Railway undertaking must include:~~

~~- Location of the wagons in the train~~
~~- wagon type if it cannot be deduced from the wagon number~~
~~- UN number, RID class and packing group for each wagon~~
~~- quantity of hazardous goods on each wagon specified in kg or liters, according to RID.~~

~~If the train contains wagons that carry trailers, then the notification must also state whether this is tank- or mixed goods transport.~~
Deleted

3813 Network manager

If the wagons contain hazardous goods marked with labels 1, 1.5 or 1.6 (see appendix B), the Network manager must ensure that all affected Signallers are informed before the Network manager confirms the receival of the hazardous goods transport report to the Railway Undertaking.

3814 Signaller

When the Signaller receives a report informing that a train is transporting hazardous goods with the labels 1, 1.5 or 1.6 (see appendix B), the Signaller must confirm the receival of the report to the Network manager and report it in the Signaller log.

The Signaller must then ensure that the train is **NOT** allowed to depart before the Network manager confirms that all affected Signallers have confirmed the receival of the hazardous goods transport report.

3815 Network manager

When the Network manager has received a confirmation from all affected Signallers, the Network manager must report to the Signaller responsible for the starting location of the train that all affected Signallers have confirmed and that the train may depart.

This report must also be given to Signallers controlling locations where the train is planned to change consist.

3816 Signaller

When the Network manager reports that all affected Signallers have confirmed, the Signaller may allow the train to depart.

3103

User worked crossing

3104 Precondition

A member of the public request to use a user worked crossing.

3105 Purpose

Prevent use of a user worked crossing endangering the safe passage of trains.

PROCEDURE

3106 Infrastructure Manager (P)

Banedanmark has procedures in place to instruct necessary members of the public on the safe working of a user worked crossing.

3107 Signaller

For all user worked crossings a predefined temporary speed restriction of 0 km/h is available extending 50 metres both sides of the crossing.

All user worked crossings are identified by a unique ID-number and the ID-numbers are available on the signalling control display .

3108 Signaller

When receiving a request from a member of the public to pass a user worked crossing the Signaller must obtain the location and identity of the crossing and verify that this corresponds to the user worked crossing.

The Signaller must make an entry in the Signaller log containing the ID-number of the user worked crossing, the name and phone number of the member of the public requesting to pass.

3109 Signaller

If a train is approaching the crossing the Signaller must instruct the member of the public to wait and call back when the train has passed.

Change per 2020-06-01:

If a train is approaching the crossing the Signaller must instruct the member of the public to wait and call back when the train has passed.

3110 Signaller

If no train is approaching the crossing the Signaller must activate a temporary speed restriction of 0 km/h at the crossing by applying the predefined speed restriction identified by the ID-number of the user worked crossing.

3111 Signaller

When the signalling system indicates that the temporary speed restriction of 0 km/h is active the Signaller must observe the signalling control display to verify that the temporary speed restriction is activated at the requested user worked crossing.

The Signaller must instruct the member of the public to report back when the user worked crossing has been cleared and the gates closed.

Then the Signaller may authorise the member of the public to cross at the user worked crossing.

3112 Signaller

When the Signaller is informed by the member of the public that the user worked crossing has been cleared the Signaller may remove the temporary speed restriction for the user worked crossing.

3113 Signaller

If the member of the public does not report back and the Signaller is unable to contact the member of the public, the Signaller may request assistance from the Driver of the next train approaching the crossing.

The Signaller must instruct the Driver to complete an Operational Instruction 5. The Operational Instruction 5 must include:

- An instruction to run on sight
- location of the user worked crossing
- additional instructions to bring the train to a standstill before reaching the user worked crossing and closing the gate
- instruction to report back to the Signaller when the gate is closed.

When the Driver has completed the Operational Instruction 5, the Signaller may deactivate the temporary speed restriction protecting the user worked crossing.

3114 Driver

When the Operational Instruction 5 is completed the Driver may proceed to the user worked crossing, using the information contained in the Operational Instruction 5, and close the gate.

The Driver must report back to the Signaller when the crossing gates have been closed.

3115 Driver

When the gate is closed and the Signaller has been informed, the Driver may continue driving according to the movement authority displayed on the DMI.

2731

Degraded operation

2732

Authorised passing of the end of authority

2733 Precondition

It is not possible to issue a movement authority. The train is at a standstill and voice communication has been established between the Driver and the Signaller.

2734 Purpose

For the Signaller to ensure adequate protection to allow the train to continue driving and authorise the Driver to pass the end of authority by use of Operational Instruction 1.

PROCEDURE

2735 Driver

The Driver must report current location to the Signaller and request authority to proceed.

2736	Signaller	When the Signaller has exhausted all possibilities for issuing a movement authority, the Signaller must protect the continued driving of the train and authorise the Driver to proceed past the end of authority and to the next ETCS stop marker, or other unambiguous location. To allow the continued driving of the train, the Signaller must ensure that: 1. Moveable elements in the track section where authority to move on Operational Instruction 1 will be valid are detected in the correct lie and prevented from further throwing **…or** any moveable elements in the track section where authority to move on Operational Instruction 1 will be valid are safe to pass according to the procedure Infrastructure fault - Handling of an undetected point that is not trailed, Infrastructure fault - Handling of a trailed point or location specific description. 2. the track section where authority to move on Operational Instruction 1 will be valid is unoccupied, unless the Signaller requires the train to enter an occupied track section, a possession or a shunting area 3. no other trains have authority to move within or into the track section where authority to move on Operational Instruction 1 will be valid. 4. no other trains have authority to move within or into the track section which follows the track section where authority to move on Operational Instruction 1 will be valid, unless the Operational Instruction 1 will apply to an occupied track section, a buffer stop, a possession or a shunting area.
2737	Signaller	The Signaller must assess if any of the following restrictions apply to the continued driving of the train on Operational Instruction 1: - Unusual transport restrictions, - electric traction unit restriction, - restrictions specified in location specific descriptions.
2738	Signaller	If a level crossing is located between the train and the end of authority of the Operational Instruction 1, the Signaller must apply the procedure Degraded operation - Passing a level crossing without a movement authority.
2739	Signaller	If the Signaller requires the train to enter an occupied track and it is not according to the timetable, the Signaller must inform the Driver (if relevant) of the occupying train that another train is to approach.
3772	Signaller	If the Signaller wants to authorise the train into a possession or shunting area, the Signaller must first contact the PICOP or Shunting area manager (if relevant) and request permission for the movement.
2740	Signaller	When the continued driving of the train is protected, the Signaller must instruct the Driver to complete an Operational Instruction 1. The Operational Instruction 1 must include (as required): - Any speed restriction below 40 km/h, - information about any occupied track, - information about any level crossing not protected, - stopping location if it is not the next ETCS stop marker - information about possessions or shunting areas.

2743 Signaller

The Signaller must ensure that the continued driving of the train remains protected until:

- The train has reached the end of authority of Operational Instruction 1 and has changed into supervised driving **...or**
- the issue of an Operational Instruction 3 **...or**
- the Driver reporting that the train is at a standstill at the end of authority of Operational Instruction 1 without a movement authority.

2744 Driver

When the Operational Instruction 1 is completed, the Driver must check the location of the end of authority of the Operational Instruction 1 either by using the Route Book or by local area knowledge.

The Driver is then authorised to press override to enter SR-mode and proceed to the next ETCS stop marker, or the location instructed, using the information contained in the Operational Instruction 1.

If the movement ends in a possession or shunting area, the Driver may only start the movement according to Operational Instruction 1 when the movement inside the area has been agreed with the PICOP or Shunting area manager. The Driver must immediately after entering the area make sure that the onboard changes to SH-mode.

Change per 2020-06-01:

When the Operational Instruction 1 is completed, the Driver must check the location of the end of authority of the Operational Instruction 1 either by using the Route Book or by local area knowledge.

The Driver is then authorised to press override to enter SR-mode and proceed to the next ETCS stop marker, or the location instructed, using the information contained in the Operational Instruction 1.

If the movement ends in a possession or shunting area, the Driver may only start the movement ~~on~~according to Operational Instruction 1 when the movement inside the area has been agreed with the PICOP or Shunting area manager. The Driver must immediately after entering the area make sure that the onboard changes to SH-mode.

2745 Driver

If Operational Instruction 1 contains additional information of a level crossing not protected, the Driver must proceed on sight with a maximum of 10 km/h, while using sound signal "Warning", until the lead cab has passed the level crossing.

3255

Overrunning/routed in wrong direction

3256 Precondition

A train has overrun its scheduled stopping location or is routed in a wrong direction and is at a standstill.

3257 Purpose

To assess if the train will remain at the current location, continue, or be moved to another location.

PROCEDURE

3258 Railway Undertaking 

The Railway Undertaking must have procedures describing if backwards movements are permitted with trains not carrying passengers.

The procedures must describe how to inform passengers in the train in case of an overrun.

3259 Driver

When a scheduled stopping location is overrun or a train is routed in the wrong direction the Driver must inform the Signaller, providing additional information regarding the actual location of the train and any expected delays to current operations.

3260 Signaller

When informed of an overrun, or a train routed in a wrong direction, the Signaller must in close cooperation with the Driver determine the appropriate response.

The Signaller must determine if:

- The passengers may be exchanged without moving the train **...or**
- the train must continue **...or**
- the Driver must be instructed to close the cab and open in the other end of the train **...or**
- the train must perform a backwards movement (provided that the train is not a passenger train).

Change per 2020-06-01:

When informed of an overrun, or a train routed in a wrong direction, the Signaller must in close cooperation with the Driver determine the appropriate response.

The Signaller must determine if:

- The passengers may be exchanged without moving the train ...or
- the train must continue ...or
- the Driver must be instructed to close the cab and open in the other end of the train ...or
- the train must perform a backwards movement (provided that the train is not ~~carrying~~a ~~passengers~~passenger train).

3261 Signaller

The Signaller must instruct the Driver about how to proceed.

3262 Signaller

If the train has to perform a backwards movement, and the train does not carry passengers, the Signaller must:

- Disable automatic route setting
- revoke any movement authority into the area behind the train
- ensure no train or vehicle has authority to move into the necessary track section(s) behind the train
- establish a temporary shunting area around the train, or set a route for shunting, to allow the backwards movement
- instruct the Driver to complete the form "Backwards movement authorisation".

3263 Driver

When instructed by the Signaller, the Driver must complete the form "Backwards movement authorisation", provided that backwards movements are permitted by the Railway Undertaking.

When the form backwards movement authorisation is completed, the Driver must press “Shunt” to enter SH-mode and perform the movement as instructed. The Driver must inform the Signaller when the movement is completed, and the train is at a standstill.

3264 Signaller

When the Driver informs the Signaller that the backwards movement is completed, and the train is at a standstill, the Signaller must instruct the Driver to exit SH-mode and prepare the train to continue its mission.

When the train has exited SH-mode, the Signaller must end the temporary shunting area, or ensure the entire route for shunting is released, as applicable.

3561 Driver

When instructed by the Signaller, the Driver must exit SH-mode and initiate the procedure Normal operation - Enter onboard train data to continue the mission.

3563

Speed restriction

3573

Deactivate temporary speed restriction

3574 Precondition

There is no longer a need for a temporary speed restriction.

3575 Purpose

To deactivate the temporary speed restriction and ensure the Signaller log is updated.

PROCEDURE

3785 Maintainer

When there is no longer a need for a temporary speed restriction, the Maintainer must contact the Signaller and request the speed restriction de-activated.

The request must contain the speed restriction ID.

3578 O&M coordinator

If the O&M coordinator is informed that a temporary speed restriction cannot be deactivated safely, the O&M coordinator must inform the Signaller.

3577 Signaller

When the Maintainer requests the de-activation of a temporary speed restriction, the Signaller must assess if it can be de-activated safely.

If the speed restriction can be de-activated safely, the Signaller must de-activate the speed restriction in the signalling system.

If the speed restriction cannot be de-activated safely, the Signaller must reject the request and inform the O&M coordinator.

3824 Signaller

Change per 2020-06-01:

When the temporary speed restriction is de-activated and no longer indicated on the signalling control display, the Signaller must ensure it is noted in the Signaller log. The note must include the name of the person requesting the de-activation.

2977

Emergency

3058

Bridge collision alarm

3059 Precondition

A potential collision with a railway bridge has been reported by a competent person or detected by a collision detection system.

3060 Purpose

To avoid any trains or vehicles being trapped on the bridge when a potential collision has been identified.

PROCEDURE

3061 Infrastructure Manager

Banedanmark has agreements with the bridge supervising authorities for a bridge collision alarm to provide a minimum of 10 minutes warning before a predicted ship to bridge collision. The Signaller can receive the alarm generated via the SCADA (Supervisory Control And Data Acquisition) system or by a verbal report.

Change per 2020-06-01:

Banedanmark has agreements with the bridge supervising authorities for a bridge collision alarm to provide a minimum of 10 minutes warning before a predicted ship to bridge collision. The Signaller can receive the alarm generated via the SCADA (Supervisory Control And Data Acquisition) system or by a verbal report.

3062 Signaller

The "Bridge collision" function will stop all trains approaching the bridge and let trains already on the bridge continue.

3063 Signaller

When the Signaller receives a bridge collision alarm the Signaller must:

1. Use the "Bridge collision" function to prevent supervised trains from approaching the bridge.
2. contact any Drivers stopped on the bridge to make immediate arrangements for their trains or vehicles to be moved to a safe location.
3. follow the location specific instructions for moving trains running on Operational Instructions.
4. contact any Shunter or PICOP with authority on the bridge.

3064 Signaller

The Signaller must inform the Network manager that further traffic crossing the bridge is suspended due to a potential bridge collision.

3065 Signaller

The Signaller may only resume traffic after receiving authorisation from the person responsible for the specific bridge.

2384

Infrastructure fault

2748

Handling of a trailed point

2749 Precondition

The Signaller needs to issue an Operational Instruction 1 passing a trailed point. The point has been examined by a technician and the point is clamped in the required lie. Any operational constraints have been logged in the Signaller log.

2750 Purpose

Setup conditions to allow the Signaller to authorise the Driver to pass a trailed point.

PROCEDURE

2751 Signaller

The Signaller must assess if there are any constraints preventing the passing of the point by checking the Signaller log.

2752 Signaller

If any constraint in the Signaller log prevents the passing of the point, the Signaller must inform the Driver.

Change per 2020-06-01:

If any constraint in the Signaller log prevents the passing of the point, the Signaller must inform the Driver ~~that passing the point is not possible~~.

2753 Signaller

Deleted

Change per 2020-06-01:

~~If there are no constraints in the Signaller log preventing the passing of the point the Signaller may consider the point as safe to pass.~~Deleted

2762

Handling of an undetected point that is not trailed

2763 Precondition

The Signaller needs to issue an Operational Instruction 1. A train is at a standstill and ready to pass a point in a situation where a point is not detected. The missing detection is not caused by trailing.

2764 Purpose

Ensure safe passing of point without detection. The missing detection is not caused by trailing.

PROCEDURE

2765 Signaller

The Signaller must assess if the point is going to be passed in a trailing or a facing direction.

2766 Signaller

If the point is going to be passed in a trailing direction the Signaller must ensure the point is in the correct lie, e.g. by assessment from the Driver. When the point is confirmed to be in the correct lie, the Signaller must block the point.

When the point is in the correct lie, and the point is blocked, the Signaller may consider the point as safe to pass.

2767 Signaller

If the point is going to be passed in a facing direction the Signaller must ensure the point is in the correct lie, e.g. by assessment from the Driver.

When the facing point is in the correct lie, the Signaller must ensure the point is clamped.

The Signaller may request the Driver to clamp the point. When the facing point is clamped the Signaller must ensure the information is recorded in the Signaller log.

Change per 2020-06-01:

If the point is going to be passed in a facing direction the Signaller must ensure the point is in the correct lie, e.g. by assessment from the Driver.

When the facing point is in the correct lie, the Signaller must ensure the point is clamped.

The Signaller may ~~order~~request the Driver to clamp the point. When the facing point is clamped the Signaller must ensure the information is recorded in the Signaller log.

3087 Signaller

When the point is clamped the Signaller may consider the point as safe to pass.

2770 Railway Undertaking 

The Railway Undertaking must provide instructions to enable the Driver to clamp a point based on instructions provided by Banedanmark.

2771 Driver

After request from the Signaller, the Driver must at any time be prepared to clamp a point.

The Driver may request the Signaller to provide additional protection in order to carry out clamping of the point by initiating procedure Incidents - Signaller protected area requested by staff.

Change per 2020-06-01:

~~If~~After ~~specified~~request ~~to~~from ~~do~~the ~~so~~Signaller, the Driver must at any time be prepared ~~to receive and carry out orders from the Signaller~~ to clamp a point.

The Driver may request the Signaller to provide additional protection in order to carry out clamping of the point by initiating procedure [Incidents - Signaller protected area requested by staff].

2171

Infrastructure work

2172

Plan possession for corrective maintenance

2173 Precondition

Corrective maintenance has been agreed with the O&M coordinator and a need for a possession has been identified.

2174 Purpose

Planning of possession for corrective maintenance and issuing of possession documentation.

PROCEDURE

3712 Infrastructure manager

Banedanmark has a procedure that ensures that persons with competences as a Signaller are always available to check and approve the planning of possessions for corrective maintenance.

The procedure ensures that the check and approval of the planning can be done in due time.

Change per 2020-06-01:

Banedanmark has a procedure that ensures that persons with competences as a Signaller are always available ~~in the traffic control centre~~ to check and approve the ~~Signaller's~~ planning of possessions for corrective maintenance.

The procedure ensures that the check and approval of the planning can be done in due time.

2175 PICOP

The PICOP must contact the Signaller and request a possession for corrective maintenance. The request must contain:

- A geographical location **...and**
- a list of ETCS stop markers marking the boundaries of the requested possession **…and**
- an estimate of the time required for the work.

2176 Signaller

The Signaller must ensure that the possession, including possession protection requirements, is planned in the signalling system to meet the request of the PICOP.

The Signaller must ensure that the planning of the possession is checked and approved by another person with competences as a Signaller.

Change per 2020-06-01:

The Signaller must ~~use the signalling system to~~ensure ~~plan~~that the possession, including possession protection requirements, is planned in the signalling system to meet the request of the PICOP.

The Signaller must ensure that the planning of the possession is checked and approved by another person with competences as a Signaller.

2177 Signaller

When the planning of the possession is checked and approved, the signalling system will generate a unique possession ID number.

2178 Signaller

If the possession can be planned according to the PICOP's request, the Signaller must inform the PICOP about the possession ID number and the timing of the possession.

Change per 2020-06-01:

If the ~~Signaller~~possession can ~~plan a~~be ~~possession~~planned according to the PICOP's request, the Signaller must ~~supply~~inform the PICOP ~~with~~about the possession ID number and ~~inform the PICOP about~~ the timing of the possession.

2179 Signaller

If the possession cannot be planned according to the request, the Signaller must reject the request and inform the PICOP.

Change per 2020-06-01:

If the ~~Signaller is~~possession ~~unable~~cannot ~~to~~be ~~plan~~planned ~~a~~ according ~~possession~~to ~~as~~the ~~requested~~request, the Signaller must reject the request and inform the PICOP.

2192

Establish possession with handheld terminal

2193 Precondition

The PICOP is at the possession site and has requested a planned possession using the handheld terminal. The possession request has been assessed and accepted by the Signaller.

2194 Purpose

Establish a planned possession.

PROCEDURE

2195 Signaller

When the Signaller has accepted the possession request, the signalling system will commence the possession protection requirements and present the possession to the Signaller on the signalling control display and request the Signaller to confirm. The possession protection requirements are implemented once the Signaller has confirmed the possession.

2196 Signaller

When the Signaller is presented with the possession on the signalling control display, the Signaller must check that the possession data indicated on the signalling control display is consistent with the possession planning.

If the possession data indicated on the signalling control display is consistent with the possession planning, the Signaller must confirm that the possession protection requirements can be implemented.

3725 Signaller

If the possession data indicated on the signalling control display is **NOT** consistent with the possession planning, the Signaller must reject the possession and as far as possible plan a new possession in co-operation with the PICOP.

2198 Signaller , PICOP

Once the Signaller has confirmed the possession and the protection requirements are implemented, the signalling system will request the PICOP to prove their location according to possession data. The possession cannot be established until the PICOPs location has been proven correctly.

2199 PICOP

When requested by the signalling system, the PICOP must prove their location by scanning an RFID-tag (Radio-frequency identification) at an ETCS stop marker, or other infrastructure object associated with the possession.

Change per 2020-06-01:

When requested by the signalling system, the PICOP must prove their location by scanning an RFID-tag (Radio-frequency identification) at an ETCS stop marker, or other infrastructure object associated with the possession.

2200 Signaller , PICOP

Scanning an ID-tag not associated with the possession will result in the PICOP receiving an error message on the handheld terminal.

2201 PICOP

If the PICOP cannot prove their location correctly, the PICOP must inform the Signaller.

2202 Signaller , PICOP

When the location of the PICOP is proven correctly, the signalling system will establish the possession and send a message to the handheld terminal confirming to the PICOP that the possession is established.

3789 Signaller

The Signaller must ensure that the establishing time and possession data is recorded in the Signaller log.

2203 PICOP

When the handheld terminal indicates that the possession is established, the PICOP must setup worksite protection.

2254

End possession with handheld terminal

2255 Precondition

Infrastructure work has been completed and information about any restrictions in the use of the infrastructure is passed on to the Signaller. The PICOP has a handheld terminal available.

2256 Purpose

Ensure that the responsibility of the infrastructure is handed back to the Signaller.

PROCEDURE

2259 PICOP

When the PICOP has determined that the infrastructure is cleared and safe to be handed back into operations, according to the rules for working in infrastructure, the PICOP must remove the worksite protection.

2261 PICOP

The PICOP must end a possession by selecting the appropriate possession ID number on the handheld terminal and scan an RFID-tag (Radio-frequency identification) at an ETCS stop marker, or other infrastructure object associated with the possession.

Change per 2020-06-01:

The PICOP must end a possession by selecting the appropriate possession ID number on the handheld terminal and scan an RFID-tag (Radio-frequency identification) at an ETCS stop marker, or other infrastructure object associated with the possession.

2262 PICOP

Scanning a tag not associated with the possession will result in an error message.

2263 Signaller , PICOP

When a request to end a possession is received from the handheld terminal, the signalling system will run a diagnostics test of the infrastructure and log any detected errors.

The signalling system will present any detected errors to the Signaller on the signalling control display and request the Signaller to accept or reject to end the possession.

If the request to end the possession is accepted it will be indicated on the handheld terminal.

2265 Signaller

When a request to end a possession is displayed on the signalling control display, the Signaller must decide if the possession can be ended as requested.
The Signaller must either accept or reject the request.

2264 PICOP

When the handheld terminal indicates that the request to end the possession has been accepted the PICOP is relieved of responsibility for the infrastructure.

3791 Signaller

The Signaller must ensure that the time the possession was ended is recorded in the Signaller log.

2266 PICOP

If an end of possession request is rejected due to detected infrastructure errors the PICOP must contact the Signaller to negotiate conditions for ending the possession.

Communication

CO.29

Message structure

CO.37

Transmission of message

CO.38 All

All safety messages must be transmitted using the standard terminology. The standard phrases may not always be adequate. In that case, use whatever words are necessary so your message can be understood.

CO.39 All

When you receive a safety message other than an emergency message you must read-back the message by:

- Repeating all numbers and other identifiers in the message
- repeating the key points of the message
- identifying the receiver of the message.

CO.40	All	As the sender of a safety message you must verify that the message has been received correctly by verifying a read-back of the message. You must always give an acknowledgement of conformity or non-conformity of the read-back.
CO.41	All	If necessary the receiver and the sender must exchange questions and clarifications until both parties agree on the content of the safety message.
CO.42	All	Safety messages transmitted by other means than train radio or phone always requires a return receipt to confirm the message has been read by the receiver. The return receipt must be issued by a person or validating system to guarantee the message has been read and not just delivered. An automatic return receipt of an e-mail cannot suffice as return receipt of a safety message.

Change per 2020-06-01:

Safety messages transmitted by other means than train radio or phone always requires a return receipt to confirm the message has been read by the receiver. The return receipt must be issued by a person or validating system to guarantee the message has been read and not just delivered. An automatic return receipt of an e-mail ~~or telefax~~ cannot suffice as return receipt of a safety message.