

ORF

Operational Rules for fjernbane

Changes since previous version

IN.56

Change per 2022-07-04:

Definitions:

- definition of safe for shunting movement is updated, to describe what this has to ensure
- the marker "Start of ORS" is added
- definition of catenary management system is added
- the requirement for functioning train radio is deleted
- specified that the rule for clamping a point is only applicable in interlocked areas
- definition of dangerous goods is updated
- defined where there is a Shunting area manager in a permanent shunting area this information can be found in local instructions
- the requirement that only a maintainer must reinstate the ETCS onboard is deleted as this is supplier specific and will be part of Railway Undertaking rules
- the definition of vehicle is updated to reflect that it is possible to park vehicles and made clear that road railers is only permitted to be in a possession or shunting area.

Procedures:

- described that the rule is that a handheld terminal is to be used for establishing a possession and an exception that it happens without
- defined how to establish a possession without a handheld terminal both in and outside the interlocked area
- the procedure for driving with a working unit is updated, including the provision of information about the work unit
- consequential updates of headings for possession and shunting procedures so that the same terms are used
- it is added that a possession can also be between several buffer stops
- the handling of the passage of a level crossing that has not been secured has changed, as the distance sometimes is so that you do not stop directly in front of the level crossing
- the procedures for driving to and from the S-Bane have been updated after coordination with ORS
- added procedure for shunting with working units between possessions in a transition area
- the chapter headings for infrastructure work has been changed to possession.

Rules for Working in the Infrastructure:

- description of special work conditions are updated.

In addition general updates.

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.

The indicated running level may, during shunting with working units in a possession in the transition area, deviate from the correct level according to the Route when the onboard is in SH-mode.

Change per 2022-07-04:

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.

The indicated running level may, during shunting with working units in a possession in the transition area, deviate from the correct level according to the Route when the onboard is in SH-mode.

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.



During shunting movements past the system border to the level 2 area in SH-mode, you must observe ORF.

Change per 2022-07-04:

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

<u>During shunting movements past the system border to</u> the level 2 area in SH-mode, you must observe ORF.

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.



OR.DEF.215 Driver

When the symbol for running in level 2 is displayed you must observe ORF.

2

During shunting movements past the system border to the level 0/ATC area in SH-mode, between possessions in the transition area, you must regardless of the indicated running level in the DMI observe the applicable operational rules for the level 0/ATC area.

Change per 2022-07-04:

When the symbol for running in level 2 is displayed you must observe ORF.

During shunting movements past the system border to the level 0/ATC area in SH-mode, between possessions in the transition area, you must regardless of the indicated running level in the DMI observe the applicable operational rules for the level 0/ATC 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.305

Isolate onboard

OR.DEF.306 <u>DEFINITION</u>

Isolation of the onboard is done by the Driver when failures on the onboard prevents further movements with active onboard. When isolated the interface between the onboard and the brakes is completely bypassed.

Maximum permitted speed with isolated onboard is 40 km/h.

No indications are available on the DMI when the onboard is isolated.

Movements with isolated onboard are done as unsupervised movements authorised by the Signaller on an Operational Instruction or by the Shunter for shunting movements. Trains are only moved with isolated onboard as far as practicable and never as part of normal service.

Isolation of the onboard is done by the Driver when failures on the onboard prevents further movements with active onboard. When isolated the interface between the onboard and the brakes is completely bypassed.

Maximum permitted speed with isolated onboard is 40 km/h.

No indications are available on the DMI when the onboard is isolated.

Movements with isolated onboard are done as unsupervised movements authorised by the Signaller on an Operational Instruction or by the Shunter for shunting movements. Trains are only moved with isolated onboard as far as practicable and never as part of normal service.

Reinstating the onboard after isolation is only done 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 with isolated onboard you must observe the conditions of on sight.

OR.DEF.723

Stop at danger point

OR.DEF.724

DEFINITION

The "Stop at danger point" marker indicates the location where the train or vehicle must be stopped when no authority to move is given out of the area.

The marker is placed in permanent shunting areas in front of danger points located so close to routes or the like, that driving to the danger point indicated on the marker could cause a risk of coming into conflict with other routes, derailment or the like.

Train awakening is performed in front of the marker. There may be points located between the marker and the danger point indicated on the marker.

The "Stop at danger point" marker indicates the location where the train <u>or vehicle</u> must be stopped when no authority to move is given out of the area.

The marker is placed in permanent shunting areas in front of danger points located so close to routes or the like, that driving to the danger point indicated on the marker could cause a risk of coming into conflict with other routes, derailment or the like.

Train awakening is performed in front of the marker.

There may be hand operated points located between the marker and the danger point indicated on the marker.

Responsibilities

OR.DEF.725 Shunter

When the train or vehicle does not have authority to move out of the area, you must ensure that it is stopped in front of the marker.



You must ensure that points between the marker and the danger point indicated on the marker are in the correct lie.

Change per 2022-07-04:

When the train <u>or vehicle</u> does not have authority to move out of the area, you must ensure that the trainit is stopped in front of the marker.

You must ensure that hand operated points between the marker and the danger point indicated on the marker are in the correct lie.

OR.DEF.896

Start of ORS

Change per 2022-07-04:

Start of ORS

OR.DEF.897

DEFINITION

Change per 2022-07-04:

Start of ORS is the location at which rules for driving is transferred to ORS.

Responsibilities

OR.DEF.899 Driver



Change per 2022-07-04:

When passing the location of the "Start of ORS" marker, you must observe ORS.

OR.DEF.900 Signaller

Change per 2022-07-04:

You must coordinate operation up to the marker, "Start of ORS" with the Signaller on S-bane. Managing the area is split between the two Signallers operating the two neighboring lines.

OR.DEF.695

Infrastructure

OR.DEF.320

Parking track

OR.DEF.321 DEFINITION

A parking track is a track in interlocked area designated for parking of rolling stock in-between missions. If a train is to end a mission at a parking track, this will be indicated in the production plan.

Sharing of track sections in a parking track is to be expected.

The location of parking tracks can be found in the Route Book.

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Sharing of track sections in a parking track is to be expected.

The location of parking tracks can be found in the Route Book.

Responsibilities

OR.DEF.322 Driver

When you are routed into a parking track in OS-mode you must always expect to be routed into an occupied track.

OR.DEF.696

Infrastructure Conditions

OR.DEF.419

Clamped point

OR.DEF.420

DEFINITION

Mechanically securing the point against throwing in a preferred lie using one or more clamps.

Clamping points is a temporary arrangement used in operations for undetected or trailed points. The clamp is secured by a locking pin to prevent unintended removal.

All interlocked points have fixed clamps fitted, usually found at the second sleeper from the blade tip

Drivers will only apply a clamp to the closed switch rail of an undetected point that has not been damaged and has to be passed in a facing direction. Damaged points will be clamped only by a maintainer after inspection.

The clamp is also used by a maintainer in case of limitations in the use of the point. When a point is clamped by a maintainer, the point is secured by a padlock.

Clamped points are indicated on the signalling control display once information has been updated into the signalling system.

Responsibilities

OR.DEF.421

Driver

When you are instructed by the Signaller to clamp the closed switch rail of a facing point you must apply the fixed clamp to the appropriate point.

OR.DEF.660

Maintainer

In an interlocked area you must only clamp a point once this is agreed with the Signaller.

Change per 2022-07-04:

YouIn an interlocked area you must only clamp a point once this is agreed with the Signaller.

OR.DEF.684

Catenary

OR.DEF.467

Catenary management system

OR.DEF.468

DEFINITION

The catenary management system is an independent system used by the Catenary manager to control and monitor the operating and switching mode of the catenary system on the parts of the Banedanmark network that is electrified.

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OR.DEF.686

Driving

OR.DEF.390

Vehicle

OR.DEF.391 DEFINITION

A vehicle can be driven and consists of one or more units of rolling stock not fitted with an onboard. Vehicles may only be moved inside possessions or shunting areas.

A vehicle is called a road railer if it can run on both rails and road. When a road railer is put on the tracks, it must always be within possessions or shunting areas.

Change per 2022-07-04:

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OR.DEF.697

Level Transition

OR.DEF.427

Level 0

OR.DEF.428

DEFINITION

Level 0 is the name given to an area of track that is not controlled by ETCS or ATC trackside equipment. The rules for driving in a level 0 area are not contained in ORF.

Level 0 may be used by working units performing shunting movements past the system border to the level 2 area between possessions in the transition area provided that the onboard is in SH-mode and the working unit does not leave the possession.

Level 0 is the name given to an area of track that is not controlled by ETCS or ATC trackside equipment. The rules for driving in a level 0 area are not contained in ORF.

Level 0 may be used by working units performing shunting movements past the system border to the level 2 area between possessions in the transition area provided that the onboard is in SH-mode and the working unit does not leave the possession.

OR.DEF.687

Preparing a mission

OR.DEF.515

Hazardous goods

OR.DEF.516 DEFINITION

Dangerous goods is the term for substances and objects listed in the "Reglement for national og international befordring af farligt gods med jernbane (RID)".

The individual substances and objects are identified by a UN number and a classification that indicates the properties of the goods. Furthermore, the term high-risk goods is used for dangerous goods that can be misused in a terrorist situation.

Hazardous goods are not transported by passenger trains.

Hazardous goods are <u>Dangerous</u> goods classified inis the <u>RID register</u>. All hazardous goods are identified by term anfor <u>UN-numbersubstances</u> and a <u>RID-classification</u>.

Hazardous goods, whichobjects canlisted bein misused the in Reglement afor terroristnational event, og is international referred befordring to af asfarligt highgods consequence hazardous jernbane goods (RID)".

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Anyare additional identified provisions by for a the UN transport number of and Hazardous a goods classification through that tunnels indicates are the found properties in of local the instructions goods.

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<u>Hazardous</u> thegoods sourceare rules not entransported RID by passenger trains.

OR.DEF.113

Safe and fit for service

OR.DEF.114 DEFINITION

Safe and fit for service determines if the rolling stock is qualified to be included in a train performing supervised movements.

Safe and fit for service centres around two states:

- 1. Safe the rolling stock does not pose a threat to other trains and/or the infrastructure
- 2. Fit the rolling stock is able to comply with the planned mission.

The minimum requirements for a train to classify as safe and fit for service are:

Safe:

- conditions for specific rolling stock use permit are met. This includes checking that the following is functioning:
- a) onboard
- b) front end indication
- c) rear end indication
- d) audible warning device (checked according to internal Railway Undertaking procedures)
- freight cargo securely loaded (if applicable)
- brakes tested and in working order
- all units in the train are connected to the continuous braking system
- the brake percentage of the train is at least 50 (exempting snow ploughs)
- the front and rear units have automatic brakes (exempting snow ploughs).

Fit:

- tunnel checks performed (if applicable)
- brake performance is compatible with the scheduled mission
- trained personnel needed for the scheduled mission is available
- train consist is compatible with the scheduled mission
- train speed compatible with the scheduled mission
- train length compatible with the scheduled mission.

Documentation available in the lead cab:

- ORF
- route book
- book of forms
- timetable.

In order to be safe and fit for service a train must fulfill both the requirements of ORF as well as any other requirements resulting from other sets of rules that may apply to the scheduled journey of the train.

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The minimum requirements for a train to classify as safe and fit for service are:

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- b) train radio (if fitted)
- c)-front end indication
- ec) rear end indication
- ed) audible warning device (checked according to internal Railway Undertaking procedures)
- freight cargo securely loaded (if applicable)
- brakes tested and in working order
- all units in the train are connected to the continuous braking system
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Shunting

OR.DEF.465

Safe for shunting movement

OR.DEF.466

DEFINITION

Safe for shunting movement means that the traction unit and/or wagons are in a safe condition to perform an unsupervised movement.

Preparation of the traction units testing that the following works:

- brakes
- radio connection (including control tone, if relevant) between the Driver and Shunter
- audible warning device (checked according to internal Railway Undertaking procedures).

Preparation of wagons means that the movement can be performed without causing damage to infrastructure or rolling stock.

Change per 2022-07-04:

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Preparation of the traction units testing that the following works:

- brakes
- radio connection (including control tone, if relevant) between the Driver and Shunter
- audible warning device (checked according to internal Railway Undertaking procedures).

Preparation of wagons means that all wagons included in the consist are connected to the continuous braking system and the movement can be performed without causing damage to infrastructure or rolling stock.

OR.DEF.87

Permanent shunting area

OR.DEF.88

DEFINITION

A permanent shunting area is a non-interlocked area which is bounded by an ETCS stop marker at the exit. No ETCS stop markers are located within a permanent shunting area.

At the exit from the permanent shunting area, there are balises placed to ensure update of a valid position. A further balise may be installed which will protect against an active desk exiting the permanent shunting area without authority unless a movable element at the exit already provides this protection.

Location specific descriptions contains special provisions and regulations applying to the movement of trains and vehicles in permanent shunting areas. If for an area there is a Shunting area manager, information about this can be found in the location specific descriptions.

Movements performed inside a permanent shunting area are the responsibility of the Shunter. Several movements can take place in the area at the same time.

Change per 2022-07-04:

A permanent shunting area is a non-interlocked area which is bounded by an ETCS stop marker at the exit. No ETCS stop markers are located within a permanent shunting area.

At the exit from the permanent shunting area, there are balises placed to ensure update of a valid position. A further balise may be installed which will protect against an active desk exiting the permanent shunting area without authority unless a movable element at the exit already provides this protection.

Location specific descriptions contains special provisions and regulations applying to the movement of trains and vehicles in permanent shunting areas. If <u>for an area</u> there is always a Shunting area manager-present, information about this can be found in the location specific descriptions. Including information about contact options.

Movements performed inside a permanent shunting area are the responsibility of the Shunter. Several movements can take place in the area at the same time.

Responsibilities

OR.DEF.89

Signaller

For areas where there is a local Shunting area manager present, you must coordinate all movements in and out of the permanent shunting area with the Shunting area manager.

OR.DEF.90 Shunting area All movements in and out of the permanent shunting area must be coordinated between you and the Signaller. manager You must regulate shunting movements within the permanent shunting area to be conducted safely.

Shunter OR.DEF.847 In permanent shunting areas you must be aware of other

movements.

In permanent shunting areas where no Shunting area manager is available, you must coordinate movements out of

the permanent shunting area with the Signaller.

OR.DEF.690 **Terms**

OR.DEF.589 **Traction unit**

OR.DEF.590 **DEFINITION** Traction unit is the collective term used for self-propelled rolling stock and covers locomotives, train sets, rail tractors

and rail mounted machinery.

Traction units are considered electrical when the pantograph is raised and in contact with the overhead wire.

Change per 2022-07-04:

Traction unit is the collective term used for self-propelled rolling stock and covers locomotives, train sets, rail tractors and rail driven mounted machinery.

Traction units are considered electrical when the pantograph is raised and in contact with the overhead wire.

Procedures

1947 **Normal operation** 2030

Precondition A supervised train is at a standstill. A driving mode is displayed on the 2031

Train departure

DMI.

Purpose Ensure that trains are issued with movement authorities according to the 2032

timetable, and inform the Signaller when a movement authority is not

available as expected.

PROCEDURE

2033 Driver The Driver must check that a movement authority is displayed on the

DMI and that it is consistent with the departure time of the train.

2034	Driver	If the Driver does not have a movement authority displayed on the DMI where one is expected, and there is no obvious reason for it to be withheld, the Driver must contact the Signaller.
2036	Signaller	If the Signaller receives a request for an authority to move, the Signaller must provide the train with the relevant authority to move.
		If it is not possible to grant a movement authority the Signaller must inform the Driver about an alternative departure.
3556	Signaller	If a Driver reports that the train does not have a movement authority, the Signaller must investigate possible causes and set the conditions to allow a movement authority to be sent to the train.
		If it is not possible to send a movement authority, the Signaller must apply the procedure Degraded operation - Authorised passing of the end of authority.
2037	Railway Undertaking	Deleted
		Change per 2022-07-04:
		The Railway Undertaking must have procedures to ensure safe
		train departure at the time specified in the time schedule. Deleted
2038	Driver	Deleted
		Change per 2022-07-04:
		Change per 2022-07-04: When a movement authority is indicated on the DMI, the Driver
3743	Driver	When a movement authority is indicated on the DMI, the Driver must initiate Railway Undertaking procedures for train departure at
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3743 2138	Driver	When a movement authority is indicated on the DMI, the Driver must initiate Railway Undertaking procedures for train departure at the time specified by the Railway Undertaking. Deleted Before the train departs, the Driver must check if there is a passenger crossing located between the front end of the train and the first ETCS stop marker. If there is a passenger crossing located between the front end of the train and the first ETCS stop marker, the Driver must assume that the
	Driver	When a movement authority is indicated on the DMI, the Driver must initiate Railway Undertaking procedures for train departure at the time specified by the Railway Undertaking. Deleted Before the train departs, the Driver must check if there is a passenger crossing located between the front end of the train and the first ETCS stop marker. If there is a passenger crossing located between the front end of the train and the first ETCS stop marker, the Driver must assume that the warning system is not activated and pass the crossing with caution.
2138		When a movement authority is indicated on the DMI, the Driver must initiate Railway Undertaking procedures for train departure at the time specified by the Railway Undertaking. Deleted Before the train departs, the Driver must check if there is a passenger crossing located between the front end of the train and the first ETCS stop marker. If there is a passenger crossing located between the front end of the train and the first ETCS stop marker, the Driver must assume that the warning system is not activated and pass the crossing with caution. Driving into an occupied track section The Signaller needs to drive a train into an occupied track section. The
2138 2139	Precondition	When a movement authority is indicated on the DMI, the Driver must initiate Railway Undertaking procedures for train departure at the time specified by the Railway Undertaking. Deleted Before the train departs, the Driver must check if there is a passenger crossing located between the front end of the train and the first ETCS stop marker. If there is a passenger crossing located between the front end of the train and the first ETCS stop marker, the Driver must assume that the warning system is not activated and pass the crossing with caution. Driving into an occupied track section The Signaller needs to drive a train into an occupied track section. The trains are not coupling.

The Signaller must then ensure that the Driver of the arriving train is informed that it will be routed into an occupied track section.

Change per 2022-07-04:

The Signaller must then:

- 4. Informensure that the Driver of the arriving train is informed that it will be routed into an occupied track section (may be omitted if the Driver has been informed in advance)
- 2. Use normal route setting for the approaching train up to the occupied track section
- 3. Allow an OS MA for the arriving train into the occupied track section.

3224

3225

Precondition

3226 Purpose

Parking in an interlocked area

A need for an unplanned parking in an interlocked area has occurred.

To ensure the parking does not affect the production plan and this is updated with the changes.

Change per 2022-07-04:

To ensure the parking does not affect the production plan and ensure this is updated to reflect with the changes.

PROCEDURE

3227

Railway Undertaking



The Railway Undertaking must have procedures describing how the Driver can perform a safe parking of rolling stock in an interlocked area. This includes correct application of parking brakes for the concerned rolling stock to prevent any unintentional movement.

3228 Driver

The Driver must request the Signaller for permission to park rolling stock.

The request must contain:

- length of the rolling stock
- track number
- expected parking duration
- reason for parking.

The Driver must request the Signaller for permission to park a<u>rolling</u> trainstock.

The request must contain:

- -train length, of the rolling stock
- track number
- expected parking duration
- reason for parking.

3230 Signaller

The Signaller must assess the request and decide if the parking can be approved.

If the request can be approved, the Signaller ensure it is noted in the Signaller log.

The Signaller then inform the Driver and potentially issue a movement authority, to the track where parking have to take place.

Change per 2022-07-04:

The Signaller must assess the request and decide if itthe parking can be approved.-

If the request can be approved, the Signaller ensure it is noted in the Signaller log.

The and Signaller then inform the Driver. The Signaller mayand then potentially issue a movement authority, to the track where parking have to take place.

3231 Signaller

If the request cannot be approved, the Signaller must inform the Driver and agree on an alternative.

3232 Driver

When the train has arrived at the agreed parking track, the Driver must secure the parked rolling stock against any unintended movements according to Railway Undertaking procedures.

3151

Driving with working unit

Change per 2022-07-04:

Planning Driving awith working unit-move

3152 Precondition

The Driver of a working unit is ready to perform a movement.

The Driver of a safe and fit-working unit-has identified the is need ready forto an perform impromptua movemovement.

3153 Purpose

Driver

3154

To exchange information according to the "Request working unit movement" form and, if required, plan the movement in the signalling system.

Change per 2022-07-04:

PlanningTo exchange information according to the "Request working unit movement" and form updating and, the if production required, plan the movement in the signalling system.

PROCEDURE

The Driver must fill in part A of the "Request working unit movement" form. In case the movement is done according to a pre-ordered timetable, the Driver may ommit filling in information about location to start mission, preferred start time, destination and preferred arrival time.

The Driver must then contact the Signaller and request the movement and hand over the information on part A of the form. In case the movement is done according to a pre-ordered timetable, the request must also contain the train running number.

Change per 2022-07-04:

If The the Driver deadline must for fill ordering in apart A of the "Request working unit movement" with form. In case the planning movement department has been appropriately has done expired according to a preordered timetable, the Driver may contact ommit the filling Signaller in and information requestabout alocation working to unit start move mission, preferred start time, destination and preferred arrival time.

The Driver must complete then contact the information Signaller required and by request the movement and hand over the information on part A of request the Working form. unit In movement case form the and movement use is this done according to communicate a pre-ordered timetable, the request to must also contain the Signaller train running number.

3155 Signaller

When a Driver requests a working unit move, the Signaller must complete part A of the "Request working unit movement" form according to the Driver's request.

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When a Driver requests a working unit move, the Signaller must complete part A of requestthe Working "Request working unit movement" form as instructed according byto the Driver's request.

3156 Signaller

Deleted

Change per 2022-07-04:

If the request involves driving out of the level 2 area, the Signaller must ensure that the Legacy signaller is contacted and the movement is agreed. Deleted

3157 Signaller



Deleted

Change per 2022-07-04:

The train running number is assigned as part of the planning. When the the planning is approved, the production plan is automatically updated in the signalling system. Deleted

3158 Signaller

If the movement is planned in advance, the Signaller must ensure that the information on part A of the form is consistent with the information in the signalling system.

If the movement is not planned in advance, the Signaller must ensure that the movement is planned in the signalling system.

Change per 2022-07-04:

The If the movement is planned in advance, the Signaller must ensure that the mission information on part A of the form is consistent with the information in the signalling system.

If the movement is not planned in advance, the Signaller must ensure that the movement is planned in the signalling system.

3159 Signaller

If the movement is planned in advance, and it is ensured that the information on part A of the form and in the signalling system is consistent, the Signaller must contact the Driver and confirm that the information in the signalling system is correct.

If the movement is not planned in advance, the Signaller must ensure that part B of the form is completed and then contact the Driver to dictate the information from part B.

When If the mission has movement been is planned in advance, and it is ensured that the information on part A of the form and in the signalling system is consistent, the Signaller must ensure contact the Driver and confirm that part Binformation of In the form signalling "Request system working is unit correct.

If the movement is not planned in advance, the Signaller must ensure that part B of the form is completed and then contact the Driver to dictate the information enfrom the part form B.

3160 Driver

When the Signaller has confirmed that the information in the signalling system is correct, or when part B of the form is completed according to the Signaller's instructions, the Driver may apply procedure Normal operation - Enter onboard train data.

Change per 2022-07-04:

When the <u>DriverSignaller</u> has <u>completedconfirmed that the</u> <u>information in the signalling system is correct, or when part B of the</u> form <u>Requestis workingcompleted unitaccording move to the Signaller's instructions,</u> the Driver may apply procedure [Normal operation - Enter onboard train data].

3876 Signaller

Change per 2022-07-04:

If the working unit has to exit out of the Signaller's area of responsibility, the Signaller must hand over the content of part A of the form to the Signaller or Legacy Signaller who will receive the working unit.

3163

3164

Precondition

3165 Purpose

3168 Signaller

Signaller handling changes to operation

The Signaller is aware of the need to perform a change to planned operations.

To ensure the change is either handled by the Signaller according to service agreements or by the Signaller requesting instructions from the Network manager.

PROCEDURE

◑

Manual route setting can be used for last-minute re-scheduling by requesting a route for the concerned train.

Any changes made by manual route setting will be automatically reflected in the production plan.

3169	Signaller	If the change can be handled according to the service agreements the Signaller must update the production plan.
		If the change cannot be handled according to the service agreements the Signaller must inform the Network manager.
3557	Signaller	If the change in the production plan results in a change in the line the train drives or a change in the scheduled stopping locations, the Signaller must ensure that the Driver is informed about the changes.
		Change per 2022-07-04:
		If the change in the production plan results in a change in the trains line mission, the train drives or a change in the scheduled stopping locations, the Signaller must ensure that the Driver is informed about the changes.
3170	Signaller	If the change in the production plan results in an altered train sequence out of the level 2 area, the Signaller must inform the Legacy signaller of the level 0 or level ATC area about the change.
		If the change in the production plan results in an altered train sequence for a train entering or exiting a depot, the Signaller must contact the person controlling the depot and coordinate necessary changes.
3593	Signaller	The Signaller must ensure that the Signallers affected by the change are informed.
3458		Crossover
3459		Shunting from Fjernbane to S-bane
3460	Precondition	A train or vehicle is ready to perform a shunting movement from Fjernbane to S-bane.
		Change per 2022-07-04:
		A <u>train or vehicle</u> is ready to perform a shunting movement from Fjernbane to S-bane.
3461	Purpose	For the Signaller to ensure adequate protection for the area and subsequently authorise the Shunting Area Manager to allow a shunting movement to S-bane in cooperation with the S-bane Signaller.
		PROCEDURE
3462	Shunting area man- ager	The Shunting area manager must contact the Signaller and request a temporary shunting area in order to cross over to S-bane.

3464 Signaller When the Signaller is requested by a Shunting area manger to establish a temporary shunting area in order cross over to S-bane, the Signaller must contact the S-bane Signaller controlling the area and arrange the timing of the crossover. The Signaller must inform the Shunting area manager about the planned timing. 3870 Shunting area man-The Shunting area manager must ensure that a temporary shunting area ager is planned starting from the position of the vehicle to the system border towards S-bane according to the procedure Shunting - Planning a temporary shunting area. Shunting area man-Before the planned timing for the shunting movement the Shunting area 3871 manager must establish the temporary shunting area according to the ager procedure Shunting - Establish temporary shunting area with a handheld terminal or Shunting - Establish temporary shunting area without a handheld terminal. Signaller When the S-bane Signaller has confirmed that the vehicle is allowed to 3465 shunt towards S-bane the Signaller must give the Shunting area manager permission to shunt to the system border towards S-bane. Shunter Deleted 3531 Change per 2022-07-04: When the vehicle is at a standstill at the system border, the Shunter must contact the S-bane Signaller in order to get instructions on how to continue the shunting. Deleted 3481 Shunting from S-bane to Fjernbane Precondition 3482 A train or vehicle is requested to perform a shunting movement from Sbane to Fiernbane. Change per 2022-07-04: A train or vehicle is requested to perform a shunting movement from S-bane to Fjernbane. **Purpose** For the Signaller to ensure adequate protection for the area to enable 3483 the S-bane Signaller to authorise the train or working unit to perform a shunting movement to cross over to Fjernbane. **PROCEDURE**

When the S-bane Signaller requests that a vehicle crosses over to

Fjernbane, the Signaller must plan a timing with the S-bane Signaller.

Signaller

3485

3866 Shunting area manager

The Shunting Area Manager must ensure that a temporary shunting area is planned according to the procedure Shunting - Planning a temporary shunting area.

The temporary shunting area must start at the system border from Sbane.

3867 Shunting area manager

Before the planned timing for the shunting movement the Shunting Area Manager must establish the temporary shunting area according to the procedure Shunting - Establish temporary shunting area with a handheld terminal or Shunting - Establish temporary shunting area without a handheld terminal.

3868 Signaller

When the temporary shunting area is established the Signaller may allow the S-bane Signaller to authorise the shunting movement of the vehicle to the system border to Fjernbane.

3486 Shunting area manager

Before the train or vehicle passes the transition point to fjernbane the Shunting Area Manager must contact the Signaller to request permission to cross the system border from S-bane.

Change per 2022-07-04:

When Before the vehicle is attrain aor standstill vehicle bypasses the system transition borderpoint to fjernbane the Shunting Area Manager must contact the Signaller to request permission to cross the system border from S-bane.

3869 Signaller

When the Shunting Area Manager request permission to pass the system border from S-bane the Signaller must give permission to cross the transition point from S-bane and shunt to the temporary shunting area, if it is safe to do so.

Change per 2022-07-04:

When the Shunting Area Manager confirms that the vehicle is at request apermission standstillto atpass the system border from Sbane the Signaller must give permission to cross the system transition borderpoint from S-bane and shunt to the temporary shunting area, if it is safe to do so.

2731

2732

Degraded operation

2733 Precondition

Authorised passing of the end of authority

recondition

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

Operational Rules for Fjernbarie - Version ORF-22-1			
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 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 production plan, 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. 	

The Signaller must ensure that the continued driving of the train remains protected until one of the following conditions is fulfilled:

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

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.

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

The Driver may omit the use of sound signal "Warning", when staff present at the level crossing is applying the hand signal "road traffic, stop".

Change per 2022-07-04:

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

The Driver may omit the use of sound signal "Warning", when staff present at the level crossing is applying the hand signal "road traffic, stop".

Supervised passing of failed level crossing

A supervised train is approaching a level crossing.

To pass a level crossing not automatically activated by the signalling system without causing any harm to infrastructure, rolling stock, passengers or road users.

PROCEDURE

2744 Driver

2745 Driver

3091

3092 Precondition

3093

Purpose

3094 Driver, Signaller



All level crossings are equipped with a local control box enabling on site operation of the level crossing. The local control box is used in case of failures, fault correction or planned maintenance.

3095 Driver

When the train is supervised to a speed restriction of 10 km/h, and the unprotected level crossing symbol is displayed on the DMI, the Driver must bring the train to a standstill in front of the level crossing and inform the Signaller.

The information must include the ID number of the level crossing and, if possible, the nature of the fault.

Change per 2022-07-04:

When the train is supervised to a speed restriction of 10 km/h, and the unprotected level crossing symbol is displayed on the DMI, the Driver must bring the train to a standstill at the ETCS stopin marker front protecting of the level crossing and inform the Signaller.

The information must include the ID number of the level crossing and, if possible, the nature of the fault.

3096 Signaller

When the Signaller is informed by a Driver that the train is at a standstill at an unprotected level crossing, the Signaller must try to operate the level crossing manually.

If the level crossing cannot be operated manually, the Signaller must request the Driver to operate the level crossing using the local control box.

If the level crossing cannot be operated using the local control box, the Signaller must instruct the Driver to pass the unprotected level crossing using a verbal safety message.

The verbal safety message must include train running number and level crossing ID.

If the Signaller knows that the level crossing cannot be protected by using the manual controls or the local control box, the Signaller may omit the process for manual activation and instruct the Driver to pass the unprotected level crossing using a verbal safety message.

The verbal safety message must include train running number and level crossing ID.

The Driver may continue driving if the level crossing speed restriction of 10 km/h is lifted.

When instructed by the Signaller to operate the level crossing, the Driver must use the local control box.

If the level crossing cannot be protected, the Driver must inform the Signaller.

3097 Signaller

3098 Driver

Operational Rules for Fjernbane - Version ORF-22-1				
3099	Driver	When the Signaller has authorised the passing an unprotected level crossing by a verbal safety message, the Driver must pass the level crossing on sight using sound signal "Warning" until the lead cab has passed the level crossing.		
		The Driver may omit the use of sound signal "Warning", when staff present at the level crossing is applying the hand signal "road traffic, stop".		
3100	Signaller	If the level crossing cannot be protected automatically or manually, the Signaller must apply the procedure Infrastructure fault - Handling report of infrastructure fault.		
3563		Speed restriction		
3564		Activate planned temporary speed restriction		
3565	Precondition	A temporary speed restriction has been planned in the signalling system.		
3566	Purpose	To establish the temporary speed restriction to ensure that all supervised trains are supervised according to the temporary speed restriction, and updating the Signaller log.		
		PROCEDURE		
3784	Maintainer	When the Maintainer wishes to activate a planned temporary speed restriction, the Maintainer must contact the Signaller and request activation.		
		The request must contain the speed restriction ID, applicable speed and the location.		
3568	Signaller	When the Maintainer requests the activation of a planned temporary speed restriction, the Signaller must check that the requested speed restriction ID is shown on the overview of planned temporary speed restrictions.		
		Prior to activating the speed restriction, the Signaller must ensure that:		
		 no supervised trains are currently running in the area the Driver of any unsupervised movement in the area is informed when the speed restriction is below 40 km/h the Shunter of any shunting movement in the area is informed when the speed restriction is below 25 km/h. 		
	0: "			

3840

The Signaller must then check that the indication of the speed restriction on the signalling control display is consistent with the planning. If the indication is consistent with the planning, the Signaller must activate the speed restriction in the signalling system.

If the indication of the speed restriction on the signalling control display is **NOT** consistent with the planning, the Signaller must ensure that the speed restriction is updated in the signalling system according to the planning.

When the temporary speed restriction is activated and indicated on the signalling control display, the Signaller must ensure entry in the Signaller log.

The entry must include the applicable speed, name of the person requesting the activation of the speed restriction and the location where the speed restriction applies.

Change per 2022-07-04:

When the temporary speed restriction is activated and indicated on the signalling control display, the Signaller must <u>make anensure</u> entry in the Signaller log.

The entry must include the applicable speed, name of the person requesting the activation of the speed restriction and the location where the speed restriction applies.

3570 Signaller

If the Signaller knows that the planned temporary speed restriction is not needed, or is faulty, the Signaller must reject the request and inform the O&M coordinator.

2709

2710

Implementing an unplanned speed restriction

Precondition

The need for an unplanned speed restriction has been reported to the Signaller.

2711 Purpose

Ensuring that the unplanned speed restriction is planned as a temporary speed restriction and activated in the signalling system.

PROCEDURE

2712 Signaller

When a need for an unplanned speed restriction is reported, the Signaller must obtain information about the reason for the speed restriction and the location that it must apply.

2713 Signaller

If the speed restriction is reported by staff with relevant technical competences, the Signaller must ensure that the speed restriction is planned in the signalling system according to the reported location and speed. The planning must include the reason for the speed restriction which will be shown on the Driver's DMI as a text message.

If the speed restriction is reported by anyone other than staff with relevant technical competences, the Signaller must ensure that the speed restriction is planned with a ceiling speed of 10 km/h, and an additional 200 metres either side of the reported location. The planning must include the reason for the speed restriction which will be shown on the DMI as a text message.

2716 Signaller

When the speed restriction is planned, the Signaller must ensure that it is checked and approved by another person with competences as a Signaller.

The Signaller must then finally approve and activate the speed restriction.

2717 Signaller



When the speed restriction is approved by the Signaller, the speed restriction is ready for activation according to the planned starting time.

When the speed restriction is activated, the Signaller ensure entry in the Signaller log and ensure action is taken to restore the infrastructure according to procedure Infrastructure fault - Correcting infrastructure fault.

Change per 2022-07-04:

When the speed restriction is activated, the Signaller <u>mustensure</u> entry in the Signaller log and ensure action is taken to restore the infrastructure according to procedure [Infrastructure fault - Correcting infrastructure fault].

Handling of an unplanned speed restriction in a transition area

The need for an unplanned speed restriction in a transition area has been reported to the Signaller.

Ensuring that the speed of the train does not exceed the speed restriction when passing the system border.

PROCEDURE

When the need for a speed restriction is reported between the "Start of ETCS-signalling" marker and the first ETCS stop marker, the Signaller must apply the procedure Speed restriction - Handling an unplanned speed restriction to ensure that no trains or vehicles exceed the speed restriction.

The Signaller must contact the Legacy signaller responsible for the area on the other side of the transition area and request that the speed restriction is also established in the neighbouring system.

The Signaller ensure that the speed restriction is planned in the signalling system according to procedure Speed restriction - Implementing an unplanned speed restriction. The Signaller ensure that the speed restriction is planned to start at the "Start of ETCS-signalling" marker and end at least 50 meters after the opposite facing "Start of ATC-signalling" or "End of ETCS-signalling" marker.

When the need for a speed restriction is reported between the "Start of ATC-signalling" or "End of ETCS-signalling" marker and the first main signal, the Signaller must apply the procedure Speed restriction - Handling an unplanned speed restriction to ensure that no trains or vehicles exceed the speed restriction.

The Signaller must then ensure that the speed restriction is planned in the signalling system according to procedure Speed restriction - Implementing an unplanned speed restriction. The Signaller must ensure that the speed restriction is planned to start 50 metres before the "Start of ATC-signalling" or "End of ETCS-signalling" marker and end at the opposite facing "Start of ETCS-signalling" marker.

3774

3775

Precondition

3776 Purpose

3779 Signaller

3780 Signaller

Before granting an authority to move past the last ETCS stop marker towards the system border, the Signaller must inform the Driver that the speed restriction in the transition area is also valid past the system border. The information must contain the endpoint of the speed restriction.

The Signaller may omit informing the Driver when the Legacy signaller has confirmed that the speed restriction is managed from the system border.

Change per 2022-07-04:

Before granting an authority to move past the last ETCS stop marker towards the system border, the Signaller must inform the Driver that the speed restriction in the transition area is also valid past the system border. The information must contain the endpoint of the speed restriction.

The Signaller may omit informing the Driver when the Legacy signaller has confirmed that the speed restriction is managed from the system border.

3799 Driver

When the Driver is informed via the DMI, or on an Operational Instruction, about a temporary speed restriction which is valid up to the transitions point, the Driver must assume that the speed restriction is also valid beyond the system border, unless other information is received.

2171

2172

2173 Precondition

2174 Purpose

2175 PICOP

Possession

Plan possession for corrective maintenance

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

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

PROCEDURE

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

- location
- the ETCS stop markers and buffer stops marking the boundaries of the requested possession
- an estimate of the time required for the work.

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

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

2176 Signaller

The Signaller must ensure that the possession, including 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.

Change per 2022-07-04:

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 and the timing of the possession.

Change per 2022-07-04:

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.

2179 Signaller

2206

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

2207 Precondition

Establish possession without handheld terminal

The PICOP has arrived at the site and is ready to initiate a planned possession. It is not technically possible to use a handheld terminal.

Change per 2022-07-04:

The PICOP has arrived at the site and is ready to initiate a planned possession. A handheld terminal is not available technically possible to use a handheld terminal.

2208 Purpose

Indicating that the PICOP is ready at the site and, if possible, establishing the possession as planned.

PROCEDURE

2209 PICOP

When the PICOP is ready to initiate the planned possession in an interlocked area, the PICOP must contact the Signaller to request the planned possession. The request must contain:

- possession ID
- PICOP ID
- PICOP mobile phone number
- location in the infrastructure.

Change per 2022-07-04:

When the PICOP is ready to initiate the planned possession in an interlocked area, the PICOP must contact the Signaller to request the planned possession. The request must contain:

- possession ID-number
- PICOP ID
- PICOP mobile phone number
- location in the infrastructure-

If the possession is outside the interlocked area and a Shunting area manager is present on site, the PICOP makes the arrangements with the Shunting area manager.

3875 PICOP

Change per 2022-07-04:

If the possession is outside the interlocked area and a Shunting area manager is present on site, the PICOP must arrange the possession with the Shunting area manager.

Before a possession is established outside an interlocked area the PICOP must inform the Signaller.

2210 Signaller

When the Signaller is contacted by a PICOP requesting a planned possession, the Signaller must assess if there are any conditions preventing the possession from being established as planned.

If the possession can be established as planned, the Signaller must manually request the possession in the signalling system.

If the possession cannot be established as planned, the Signaller must contact the PICOP and inform about the reason for the rejection.

2211 Signaller



The signalling system can only activate a possession if all elements of the area are not locked by a route, or by an overlap, or reserved by another established temporary shunting area or possession.

3726	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 protection requirements can be implemented.
3727	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 cooperation with the PICOP.
3724	Signaller	The possession is established when the Signaller has approved it.
3790	Signaller	The Signaller must ensure that the establishing time and possession data is recorded in the Signaller log.
2212	Signaller	When the possession is approved, the Signaller must request the PICOP to prove their location.
3838	PICOP	After request from the Signaller, the PICOP must prove their location in the infrastructure by reading the ID-number on the plate of an ETCS stop marker associated with the possession.
3839	Signaller	When the PICOP has proven their location correctly, the Signaller must inform the PICOP that the possession is etablished (including establishing time) and inform about the boundaries of the possession and planned end time.
2213	PICOP	When instructed by the Signaller that the possession is established, the PICOP must register the name of the Signaller as well as time and date of establishing the possession in the PICOP log. The PICOP must then setup worksite protection.
3747		Establish possession in a transition area
3748	Precondition	The PICOP is ready to establish possessions on both sides of the system border in the transition area.
3749	Purpose	Establishing of possessions in the transition area and ensuring that all relevant agreements are made with the Signallers on both sides of the system border.
		PROCEDURE
3752	PICOP	The PICOP must apply the procedure Possession - Request planned possession with handheld terminal or Possession - Establish possession without handheld terminal to establish the possession in the level 2 area.
3753	Signaller	When receiving a request to establish a possession in a transition area, the Signaller must first contact the Legacy signaller and request that signalling to the transition area is prevented.
		The Signaller may then apply the procedure Possession - Request

planned possession with handheld terminal or Possession - Establish

possession without handheld terminal.

3754 PICOP

Only when possessions on both sides of the system border are established and the worksite protection is placed the PICOP may authorise the work to commence.

3755 PICOP, Driver



Deleted

Change per 2022-07-04:

The signalling system will only allow driving between the two possessions in the direction towards level 2 past the system border provided that the onboard is in SH-mode and the Driver presses "Override" just prior to passing the system border.

If the Driver does not press "Override" when passing the system border, the onboard will change to TR-mode. Deleted

3756 PICOP

Deleted

Change per 2022-07-04:

The PICOP may allow driving between the two possessions past the system border without further authorisation from the Signaller. Deleted

3757 Driver

Deleted

Change per 2022-07-04:

If the onboard changes to TR-mode when driving past the system border towards level 2 in a possession, the Driver must acknowledge the change to TR-mode and select "Shunting" on the DMI to request SH-mode from the signalling system. Deleted

2243

Possession handover without handheld terminal

2244 Precondition

A relieving PICOP is ready to take over responsibility of an active possession. Either of the PICOPs, or both, are without a handheld terminal.

2245 Purpose

Handing over responsibility of a possession between two PICOPs, and ensuring data is transferred to the signalling system.

PROCEDURE

2246 PICOP

Before responsibility of a possession can be handed over, the relieving PICOP must obtain all relevant information about the possession from the responsible PICOP.

2247 PICOP

The relieving PICOP must contact the Signaller and request the possession handover. If the possession is outside interlocked areas and a Shunting area manager is assigned to the area, the PICOP informs the Shunting area manager.

The request must contain:

- possession ID
- relieving PICOP ID
- relieving PICOP mobile phone number.

Change per 2022-07-04:

The relieving PICOP must contact the Signaller and request the possession handover. If the possession is outside interlocked areas and a Shunting area manager is assigned to the area, the PICOP informs the Shunting area manager.

The request must contain:

- possession ID-number
- relieving PICOP ID
- relieving PICOP mobile phone number.

Signaller

When the PICOP contacts the Signaller to request a possession handover, the Signaller must update the possession data in the Signaller log and in the signalling system.

When the possession data in the Signaller log and the signalling system

is updated, the Signaller must inform the relieving PICOP about the time when responsibility for the possession is handed over.

The relieving PICOP assumes responsibility of the possession when the Signaller has confirmed that details have been recorded. The relieving PICOP must then contact the PICOP to confirm the transfer in responsibility.

Both PICOP's must register the date and time of possession handover in their PICOP logs.

Where the PICOP has a handheld terminal available, the PICOP must use it to request the control of the possession be transferred from the signalling system to the handheld terminal.

End possession with handheld terminal

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.

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

PROCEDURE

2248 Signaller2250 Signaller2251 PICOP

3797 PICOP

2254

2255

2256

Precondition

Purpose

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 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 2022-07-04:
		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. The PICOP must note the time in the PICOP log.
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.
2269		End possession without handheld terminal
2270	Precondition	Infrastructure work has been completed and information about any restrictions in the use of the infrastructure is passed on to the Signaller. It is not technically possible to use a handheld terminal.

Infrastructure work has been completed and information about any restrictions in the use of the infrastructure is passed on to the Signaller. The PICOPIt doesis not have technically possible to use a handheld terminal available.

2271 Purpose

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

PROCEDURE

2274 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.

3890 PICOP

Change per 2022-07-04:

If the possession is outside interlocked areas and a Shunting area manager is assigned to the area, the PICOP informs the Shunting area manager.

If the possession is outside interlocked areas the PICOP informs the Signaller.

2276 PICOP

The PICOP must end a possession or a part of a possession inside interlocked areas by contacting the Signaller and report:

- PICOP ID
- possession ID of the possession that can be ended
- that the area is safe for operations.

Change per 2022-07-04:

The PICOP must end a possession or a part of a possession <u>inside</u> <u>interlocked areas</u> by contacting the Signaller and report:

- PICOP ID
- possession ID-number of the possession that can be ended
- that the area is safe for operations-

If the possession is outside interlocked areas and a Shunting area manager is assigned to the area, the PICOP informs the Shunting area manager.

2277	Signaller		When the Signaller receives a request to end a possession from a PICOP the Signaller must:
			 Verify that the PICOP is registered as responsible for the possession enter the request into the signalling system.
2278	PICOP, Signaller	①	The signalling system will run a diagnostics test of the infrastructure handed back by the Signaller and log any detected errors. If any error is detected the signalling system will request the Signaller for an acknowledgement.
			If no error is detected the request to end a possession is automatically accepted.
2279	Signaller		The Signaller must evaluate reported errors indicated on the signalling control display and either reject or accept the request to end a possession.
2280	Signaller		If the request to end the possession is rejected due to detected infrastructure errors the Signaller must instruct the PICOP to correct the error or negotiate conditions for ending the possession.
2281	Signaller		When the possession is ended, the Signaller must inform the PICOP the time it was ended.
2282	PICOP		When the PIOCP is informed by the Signaller of the time the possession ended the PICOP must enter the time into the PICOP log and then the PICOP is relieved of responsibility for the infrastructure.
3792	Signaller		The Signaller must ensure that the time the possession was ended is recorded in the Signaller log.
3329			Shunting
			Change per 2022-07-04:
3372			Shunting movement
3373	Precondition		A shunting movement is to be performed inside a possession or shunting area.
3374	Purpose		To perform a shunting movement inside a possession or shunting area.
			PROCEDURE
3375	Shunter	①	Interlocked points inside possessions or temporary shunting areas are released for local control if not locked for protective purposes. The handheld terminal can be used to throw the lie of the point inside possessions or temporary shunting areas.
			The lie of points is not indicated on the handheld terminal.

3376 Shunter

The Shunter must protect the shunting movement by ensuring:

- points are in the correct lie for the movement
- obstacles that may cause a hazardous situation are avoided
- the shunting movement will not come into conflict with other shunting movements in the area
- level crossings included in the shunting movement are activated via the local control box and protected.

If a level crossing cannot be protected, and the cab is in the forward facing end of the movement, the Shunter must instruct the Driver to use sound signal "Warning" until the cab has cleared the level crossing. If the cab is not in the forward facing end of the movement, the Shunter must stop the road traffic by using hand signal "Road traffic, stop". When the hand signal is used, the Shunter must instruct the Driver not to use sound signal "Warning" during the passing of the level crossing.

Throughout the shunting movement the Shunter must be located in a position from where as much of the shunting path can be observed, and as far as possible, continually ensure the conditions listed above are met.

When performing shunting movements in areas with public access the Shunter must ensure that yellow flashing light on the traction unit is activated if mounted.

When performing shunting movements in areas with public access in darkness or low visibility the Shunter must ensure that first and last vehicle is marked with yellow flashing light.

If the shunting movement is controlled by using a radio with control tone functionality, the Shunter must ensure that the control tone is activated at all times during the movement.

In case the shunting movement is controlled by using a radio without control tone functionality, the Shunter must use verbal control tone. The Shunter must use verbal control tone by transmitting the message "Continue" with a maximum of 10 second intervals when no other messages needs to be exchanged.

When the Shunter has setup the conditions for the required shunting movement, the Shunter must contact the Driver of the train to initiate the movement.

The Shunter must use the standard phrases or hand signals to instruct the Driver about the movement to take place.

The Shunter may be located in a position from where the shunting path cannot be observed, provided the Driver is controlling the train or vehicle from the leading cab for the direction of travel and the Driver is instructed about the shunting movement.

The instruction must include an unambiguous start and end location, and any relevant information related to the shunting movement.

3603 Shunter

3741 Shunter

3377 Shunter

3378 Shunter

The Shunter may be located in a position from where the shunting path cannot be observed, provided the Driver is controlling the train or vehicle from the leading cab for the direction of travel and the Driver is instructed about the shunting movement.

The instruction must include an unambiguous start and end location, and any relevant information related to the shunting movement.

Driver

3379

When the Driver receives shunting instructions from the Shunter, the Driver must perform the movement as instructed.

Throughout the entire movement the Driver must as far as possible observe that:

- the lie of points matches the intended movement
- obstacles that may cause a hazardous situation are avoided
- the shunting movement will not come into conflict with other shunting movements in the area.

If a point is not in the correct lie for the intended movement, or there is risk for a hazardous situation to occur, the Driver must immediately bring the train or vehicle to a standstill and contact the Shunter.

Change per 2022-07-04:

When the Driver receives shunting instructions from the Shunter, the Driver must perform the movement as instructed.

Throughout the entire movement the Driver must as far as possible observe that:

- the lie of points matches the intended movement
- obstacles that may cause a hazardous situation are avoided
- the shunting movement will not come into conflict with other shunting movements in the area.

If a point is not in the correct lie for the intended movement, or there is potential risk for a hazardous situation to occur, the Driver must immediately bring the train or vehicle to a standstill and contact the Shunter.

3742 Driver

When performing a shunting movement by use of radio, the Driver must continuously check that the control tone or verbal control tone (message "Continue" is transmitted with a maximum of 10 second intervals) is audible.

If the control tone or verbal control tone cannot be heard, the Driver must bring the shunting movements to a standstill and inform the Shunter. 3560 Shunter

3880

When the entire consist of rolling stock has cleared the level crossing, the Shunter must ensure the level crossing is deactivated.

Shunting movement past the system border between possessions in the transition area

Change per 2022-07-04:

Shunting movement past the system border between possessions in the transition area

3881 Precondition

Change per 2022-07-04:

Possessions are established on both sides of the system border in the transition area. A working unit has to pass the system border from one possession to the other.

3882 Purpose

Change per 2022-07-04:

Ensure that the onboard is always in SH-mode, when shunting movements are performed in the transition area.

PROCEDURE

3884 PICOP

Change per 2022-07-04:

The PICOP may allow shunting movements past the system border without further authorisation from the Signaller or Legacy signaller.

3885 Driver



Change per 2022-07-04:

When the onboard is in SH-mode and reads the balise at the system border, the level change is stored and will be executed when the onboard exits SH-mode.

3886 Driver

The Driver must ensure that the onboard is in SH-mode before shunting movements are performed in possessions in the transition area regardless of which side of the system border, the working unit is located.

3887 Driver

Change per 2022-07-04:

The working unit may leave a possession in the transition area only when the Driver has ensured, that the indicated running level is level 2

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Precondition

Purpose

3395 Shunting area man-

ager

3396 Shunter

3397 Driver

3398 Driver

Leaving a possession or shunting area

A train has finished work within a possession or shunting area and is ready to shunt towards the exit ETCS stop marker.

To get the train to the exit ETCS stop marker of the area and ready to leave the area as a supervised movement.

PROCEDURE

Prior to allowing a train to drive to the exit ETCS stop marker of the area, the Shunting area manager must ensure that this is according to planned sequence or is agreed with the Signaller.

The Shunter must come to an agreement with the Shunting area manager before a train can shunt to the exit ETCS stop marker of the area. In case no Shunting area manager is assigned, the agreement is made with the Signaller.

The Driver must drive as close as possible to the exit ETCS stop marker according to instructions received from the Shunter.

If the area is equipped with a "Stop at danger point" marker, the Driver must stop the train in front of the marker instead.

To leave the possession or shunting area the Driver must first press "Exit Shunting" if not in SB-mode. When the train is in SB-mode the Driver may apply procedure Normal operation - Enter onboard train data.

Change per 2022-07-04:

To leave the possession or shunting area the Driver must first press "Exit Shunting" if not in SB-mode. The Driver should only begin train awakening when When the train has reached a position such that there are nois obstacles in between SB-mode the front Driver end may of apply the procedure train [Normal and operation the exit Enter ETCS on board stop train marker data].

	oporano	a	Total Carta Leave Total Carta
3847			Planning of a temporary shunting area
3848	Precondition		The need for a temporary shunting area is identified. The area is not planned in advance.
3849	Purpose		Planning of a temporary shunting area and agreeing the boundaries and timing of the area.
			PROCEDURE
3851	Shunting area manager		The Shunting area manager must contact the Signaller and request a temporary shunting area. If the requested area is defined in the location specific description, the Shunting area manager must use the area name or number from there to specify the boundaries of the area.
			The request must contain a specification of:
			 location the ETCS stop markers and buffer stops marking the boundaries of the area timing.
			Change per 2022-07-04:
			The Shunting area manager must contact the Signaller and request a temporary shunting area. If the requested area is defined in the location specific description, the Shunting area manager must use the area name or number from there to specify the boundaries of the area. The request must contain a specification of:
			 location the ETCS stop markers <u>and buffer stops</u> marking the boundaries of the area timing.
3852	Signaller		The Signaller must ensure that the temporary shunting area is planned in the signalling system according the request of the Shunting area manager. The Signaller must also ensure that the planning is checked and approved by another person with competences as a Signaller.
			If the area cannot be planned as requested, the Signaller must inform the Shunting area manager and, if possible, plan an alternative.
3853	Signaller	D	The ID-number of the temporary shunting area is assigned when the area is planned in the signalling system.
3854	Signaller		When the temporary shunting area is planned in the signalling system, the Signaller must inform the Shunting area manager about area ID-number and the planned timing arrangements.

terminal

3422

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Establish temporary shunting area without handheld

3423 Precondition The Shunting area manager is ready to establish a planned temporary shunting area. No handheld terminal is available. Change per 2022-07-04: The Shunting area manager is ready to establish a planned temporary shunting area. No handheld terminal is available. Purpose Establish a planned temporary shunting area. 3424 **PROCEDURE** Shunting area man-The Shunting area manager must contact the Signaller and request the 3426 ager establishing of the planned temporary shunting area. The request must contain a specification of: - area ID-number. - location where the area must be established - Shunting area manger ID - radio ID or mobile phone number Signaller The signalling system can only activate a temporary shunting area if all 3427 elements of the area are not locked by a route, or by an overlap, or reserved by another established temporary shunting area or possession. Signaller The Signaller must manually request the temporary shunting area in the 3428 signalling system. Before the Signaller approves the request to establish a temporary shunting area, the Signaller must assess if any conditions exist which prevent the area from being established as planned. 3843 Signaller When the temporary shunting area is indicated on the signalling control display, the Signaller must check that the indication of the area is consistent with the planning. If the indication on the signalling control display is consistent with the planning, the Signaller must approve the establishing of the area. Signaller If the indication of the temporary shunting area on the signalling control 3844 display is **NOT** consistent with the planning, the Signaller must reject the establishing of the area and as far as possible re-plan the area in cooperation with the Shunting area manager. 3845 Signaller The Signaller must inform the Shunting area manager when the temporary shunting area is established. The boundaries of the area must be included in the message. The Signaller must ensure that an entry is made in the Signaller log. Shunting area man-The Shunting area manager must assume responsibility for the 3429 ager temporary shunting area when the Signaller confirms that the area has been established. 3433 End temporary shunting area with handheld terminal

Precondition

3434

All movements inside the temporary shunting area have ended or the

manager has a handheld terminal available.

Signaller needs the temporary shunting area ended. The Shunting area

3435 Purpose

Ensure that all trains have exited SH-mode and all moveable elements are detected, and then hand back control of the infrastructure to the Signaller.

PROCEDURE

3436 Shunting area manager



The agreed timing of an established temporary shunting area is displayed on the handheld terminal.

If a temporary shunting area is not ended within the agreed timing a message will be indicated on the handheld terminal and the signalling control display.

3437 Shunting area manager

The Shunting area manager must request the temporary shunting area to be ended at the agreed time, as far as possible.

3438 Signaller

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If the temporary shunting area is not ended at the agreed time, the Signaller must contact the Shunting area manager and request the temporary shunting area ended or agree to extend the duration of the temporary shunting area.

3439 Shunting area manager

Before the Shunting area manager can request a temporary shunting area ended, the Shunting area manager must ensure that all trains inside the temporary shunting area have exited SH-mode and all moveable elements are set in the correct position.

Shunting area manager

The Shunting area manager must request to end the temporary shunting area by selecting the appropriate temporary shunting area on the handheld terminal.

Signaller, Shunting area manager



When the signalling system receives a request to end a temporary shunting area by a handheld terminal, the signalling system can only end the temporary shunting area, if no routes are set into the area. The handheld terminal displays a confirmation when the temporary shunting area is ended.

When a temporary shunting area is ended this will be displayed on the signalling control display.

Change per 2022-07-04:

When the temporarysignalling shuntingsystem areareceives is a requested request ended to end a temporary shunting area by a handheld terminal, the signalling system will can only end the temporary shunting area, if no routes are set into the area, and all moveable elements are detected. The handheld terminal will displays a confirmation when the temporary shunting area is ended.

When a temporary shunting area is ended this will be displayed on the signalling control display.

3877 Signaller

When a request to end a temporary shunting area appears on the signalling control display, the signaller must assess whether the area can be ended as requested. The signaller must either approve or reject the request.

3794 Signaller

The Signaller must ensure an entry in the Signaller log when the temporary shunting area is ended.

3442 Shunting area manager

The Shunting area manager must observe confirmation that the signalling system has ended the temporary shunting area on the handheld terminal before leaving the area.

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End temporary shunting area without handheld terminal

Precondition

All movements inside the temporary shunting area are concluded or the Signaller needs the temporary shunting area ended. No handheld terminal is available.

Change per 2022-07-04:

All movements inside the temporary shunting area are concluded or the Signaller needs the temporary shunting area ended. The Shunting area manager does not have a No handheld terminal is available.

3447 Purpose

Ensure that all trains have exited SH-mode and all moveable elements are in a lockable position, and then hand back control of the infrastructure to the Signaller.

PROCEDURE

3448 Signaller



Deleted

Change per 2022-07-04:

If a temporary shunting area is not ended within the agreed timing a message will be indicated on the signalling control display. Deleted

3449 Shunting area manager

The Shunting area manager must request the temporary shunting area ended at the agreed time as far as possible.

3450 Signaller

If the temporary shunting area has not been ended at the agreed time, the Signaller must contact the Shunting area manager and request the temporary shunting area ended or agree to extend the duration of the temporary shunting area.

3451 Shunting area manager

Before the Shunting area manager can request to end a temporary shunting area, the Shunting area manager must ensure that all trains inside the temporary shunting area have exited SH-mode and all moveable elements are in the correct lie.

3452 Shunting area manager

The Shunting area manager must request to end a temporary shunting area by contacting the Signaller and report Shunting area manager ID and temporary shunting area.

Change per 2022-07-04:

The Shunting area manager must request to end a temporary shunting area by contacting the Signaller and report:

- Shunting area manager ID
- and temporary shunting area
- a confirmation that all trains have exited SH-mode.

3453 Signaller

When the Signaller receives a request to end a temporary shunting area from a Shunting area manager, the Signaller must:

- 1. Verify that the Shunting area manager is registered as responsible for the temporary shunting area
- 2. Enter the request into the signalling system.

3454 Signaller



When the signalling system receives a request to end a temporary shunting area by a handheld terminal, the signalling system can only end the temporary shunting area, if no routes are set into the area.

When a temporary shunting area is ended this will be displayed on the signalling control display.

Change per 2022-07-04:

When the temporarysignalling shuntingsystem areareceives isa requested request ended to end a temporary shunting area by thea Signallerhandheld terminal, the signalling system will can only end the temporary shunting area, if no routes are set into the area, and all moveable elements are detected.

When a temporary shunting area is ended this will be displayed on the signalling control display.

3455 Signaller

The Signaller must verify from indications on the signalling control display that the signalling system has ended the temporary shunting area.

The Signaller must inform the Shunting area manager when the temporary shunting area is ended.

The Signaller must verify from indications on the signalling control display that the signalling system has ended the temporary shunting area.

The Signaller must ensure an entry in the Signaller log when the temporary shunting area is ended.

The Signaller must-inform the Shunting area manager when the temporary shunting area is ended.

3878 Signaller

Change per 2022-07-04:

The Signaller must ensure an entry in the Signaller log when the temporary shunting area is ended.

3456 Shunting area manager

The Shunting area manager must await Signaller confirmation that the temporary shunting area is ended before leaving the area.

Rules for Working in the Infrastructure

TW74		Other working conditions
TW75		Special work conditions
TW76		Application of the rules
TW77	PICOSS	Special work conditions apply when one the following conditions are all fulfilled:
		 - the safety distance to an operational track is not violated - the worksite is situated in an area with regular public access - there is a risk that the safety- and/or protective distances is violated - the work is performed in track under renewal.

Special work conditions apply when <u>one</u> the following conditions are all fulfilled:

- the safety distance to an operational track is not violated
- the worksite is situated in an area with regular public access
- there is a risk that the safety<u>-</u> <u>distance</u><u>and/or</u> <u>toprotective</u> <u>andistances</u> <u>operationalis</u> <u>trackviolated</u>
- <u>-</u> <u>and/orthe</u> <u>catenarywork</u> <u>systemis</u> <u>canperformed</u> <u>bein</u> <u>violatedtrack</u> <u>under renewal</u>.