OPERATIONAL RULES GROUP

ETCS AND GSM-R RULES AND PRINCIPLES

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<tr>
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<tbody>
<tr>
<td>Managing Director</td>
<td>J. TAMARIT</td>
<td></td>
</tr>
<tr>
<td>Deputy Managing Director</td>
<td>R. DIJKMAN</td>
<td></td>
</tr>
</tbody>
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Review by:

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<tr>
<td>Manager</td>
<td>D. LIGIER</td>
<td></td>
</tr>
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1. **INTRODUCTION**

This document contains the principles and interoperable rules for the operation of ETCS and GSM-R.

The structure of each rule is the following:

- title,
- indication of the ETCS levels of its application,
- situations in which the rule applies,
- the rule itself.

The section “situations” of each rule is not part of the rule itself but is intended to give to the user some orientation for the context of application.

All rules apply in all the ETCS levels indicated below their title except when specified otherwise.

All language referring to people applies equally to male and female persons.

Annex A contains the different written orders.

Annex B contains the ETCS rules which are not yet validated.

Annex C contains the list of linked national rules.
2. **SCOPE**

2.1 **ETCS rules**

The operations rules in this document apply to the following situations:

- lines equipped with ETCS level 1 whether or not trackside signals or infill are present,
- lines equipped with ETCS level 2.

In both of the above situations the rules have been developed independently of other signalling systems that may be present including where lines are equipped with ETCS level 1 and ETCS level 2.

When railways are implementing ETCS level 1 or ETCS level 2 on lines fitted with other signalling systems it will be necessary for the railways to assess the applicability of these rules and if necessary supplement them with national rules. This includes those lines fitted with both ETCS level 1 and ETCS level 2.

The ETCS operational rules also cover the transitions ordered from trackside between the levels mentioned above.

Some situations however require taking into account information displayed on the DMI referring to ETCS level 0 or ETCS level STM.

These situations are covered by the rules:

- awakening on an awakening track,
- awakening outside an awakening track,
- reacting to DMI / signalling system instructions.

2.2 **GSM-R rules**

GSM-R voice radio operational rules are applicable on lines equipped with GSM-R independently of the control command system.
3. REFERENCES

The rules are based on the following documents.

3.1 ETCS
   - FRS: 4.29,
   - Functional Statement in version 2,
   - SRS (SUBSET-026 issue 2.2.2),
   - Functional Analysis - EEIG reference: 05E468 1-,
   - Functional description of the system - Specifications EX part scenarios, EEIG references:
     05E501 to 521 (all in version 1),
   - Operational DMI information - EEIG reference: 05E446 1-.

3.2 GSM-R
   - FRS 6.0.
4. PERFORMERS

This section defines the different functions of the performers used in ERTMS operation.

Controller:
A performer who is in charge of all GSM-R communication to trains in a defined area.

Driver:
A performer who is in charge of driving a train.

Performer:
Any railway employee mentioned in the ETCS operational rules.

Signalman:
A performer who is in charge of the route setting of trains and of issuing instructions to drivers.

Train preparer:
A performer who is in charge of the preparation of a train.
5. PRINCIPLES

5.1 COMMON PRINCIPLES FOR ETCS LEVELS 1 AND 2

This section defines principles that apply in ETCS operation.

5.1.1 OBSERVATION OF SIGNALLING

The driver shall obey the indications provided on the DMI.

5.1.2 WRITTEN ORDERS

Written orders take precedence over the related indications provided by the DMI except when a lower permitted speed or a lower release speed is displayed.

The issuing of a written order should be performed as close as sensible to the affected area.

When the driver receives a written order he shall check that this written order refers to his train / shunting movement and its current location.

A written order that has been issued can only be revoked by a new written order explicitly referring to the previous one.

5.1.3 INDICATIONS OF DANGER

The driver shall respect any indications of danger as specified in national rules.

5.1.4 NO AUTHORISATION FOR TRAIN MOVEMENT AT THE EXPECTED TIME

If the driver has not received an authorisation for train movement at the expected time, and has no information as to the reason, he shall contact the signalman in accordance with national rules.
5.1.5 AUTHORISATION TO START IN SR
The driver shall be authorised by the signalman to start in SR by means of written order, except in case of awakening in level 1 with trackside signals.

5.1.6 SPEED RESTRICTIONS IN SR
The signalman shall give all speed restrictions lower than the maximum speed for SR to the driver of a train running in SR by means of written order except in case of awakening in level 1.

5.1.7 AUTHORISATION TO PASS AN ETCS MARKER BOARD
The driver shall be authorised to pass an EOA (including an ETCS marker board when running in SR) by the signalman by means of written order.

5.1.8 OVERRIDE
The driver shall not pass an EOA before receiving a written order from the signalman authorising him to do so.

The driver shall not override route unsuitability before receiving a written order from the signalman authorising him to do so.

5.1.9 TRAINS BEING TRIPPED
The driver shall not continue running in the same direction after a trip has occurred without permission from the signalman received by written order.
5.2 PRINCIPLES FOR ETCS LEVEL 1

This section refers to principles and rules to be applied in all situations of level 1 and specifically required by that ETCS level (not in common with other levels).

5.2.1 KNOWLEDGE OF TRACKSIDE SIGNALS

The driver shall be able to correctly identify:

- the position of trackside signals to be observed,
- the aspects of trackside signals that he is not allowed to pass,
- the aspects of trackside signals that can be passed without restrictions and aspects of signals that can be passed with specific restrictions, according to national rules.

Before applying a rule the signalman shall make sure that the concerned train is operating in ETCS level 1 by voice communication with the driver.
6. **ETCS RULES**

6.1 **WRITTEN ORDERS**

A written order must only be issued when:

- the train is at standstill,
- the driver has identified his function, train number and location.

Written orders must state the following as a minimum:

- who issued it,
- from where was it issued,
- at what time and date,
- to which train it is intended,
- a clear, precise, unambiguous instruction,
- an authorisation number.

The signalman must not permit a train movement until the written order has been confirmed by the driver.
6.2 PREPARING A TRAIN AS A TANDEM MOVEMENT

Intentionally blank.
6.3  A WAKENING ON AN A WAKENING TRACK  
(Levels 0, 1, 2, STM)

6.3.1  SITUATIONS
The driver is about to start a mission and the traction unit is in SB.

6.3.2  RULE
When requested by the onboard system, the driver shall:
- enter, re-enter or re-validate the Driver ID and the train number,
- select the corresponding ETCS level according to the Route Book.

6.3.2.1  The traction unit has to move as a train
The driver shall:
- enter the train data (rule ENTERING DATA),
- select “Start”.

6.3.2.1.1  In level 0
When the following symbol is displayed with a flashing frame:

the driver shall:
- acknowledge,
- react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).
6.3.2.1.2  

**In level 1**

When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall:

- acknowledge,
- react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).

6.3.2.1.3  

**In level 2**

Intentionally blank.

6.3.2.1.4  

**In level STM**

When one of the following symbols is displayed with a flashing frame:

![Symbol]

or

![Symbol]

the driver shall:

- acknowledge,
- apply rules according to level STM.

6.3.2.2  

**The traction unit has to move in SH**

The driver shall prepare for shunting (rule PERFORMING SHUNTING MOVEMENTS IN SH).

6.3.2.3  

**The traction unit has to move in NL**

Intentionally blank.
6.4 ENDING A TRAIN AS A TANDEM MOVEMENT

Intentionally blank.
6.5 PERFORMING SHUNTING MOVEMENTS IN SH (Levels 1, 2)

6.5.1 SITUATIONS
Rolling stock has to be moved in SH.

6.5.2 RULE

6.5.2.1 Manual entry into SH
Before authorising the driver to select “SH”, the signalman shall:

- check that all conditions are fulfilled for shunting according to national rules,
- give the driver all necessary information about movements to be carried out.

The driver shall select “SH” only at standstill and when he has received permission from the signalman.

6.5.2.1.1 Permission for shunting is granted.
When the following symbol is displayed:

the driver shall react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).
6.5.2.1.2 **Permission for shunting is refused or no answer to shunting request is received in level 2**

When one of the following messages is displayed:

“SH refused”,

or

“SH not received”,

or

“Communication session terminated”,

the driver shall contact the signalman.

The driver and the signalman shall apply national rules.

6.5.2.2 **Automatic entry into SH**

When the following symbol is displayed with a flashing frame:

the driver shall:

- first ensure he has the correct information concerning the movement he is to perform,
- then acknowledge.

6.5.2.3 **Running in SH**

When the following symbol is displayed:

the driver shall apply national rules.
6.5.2.4 Passing a defined border of a shunting area

When a shunting movement needs to pass a defined border of a shunting area driver and signalman shall apply national rules.

6.5.2.5 Exit from SH

When the shunting movement is at a standstill and all shunting movements performed in SH are finished the driver shall select “exit SH” and tell the signalman that he has done so.
6.6 ENTERING DATA
(Levels 1, 2)

Intentionally blank.
6.7 DEPARTURE OF THE TRAIN
(Levels 1, 2)

6.7.1 SITUATIONS
The train is about to start at the initial station or after a scheduled stop.

6.7.2 RULE
The driver is allowed to depart after:

- he has received an authorisation for train movement,
- train service conditions are fulfilled according to national rules,
- it is time to depart.

The driver shall react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).
6.8 REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS (Levels 0, 1, 2, STM)

6.8.1 PRESENTATION OF THE DMI
The different situations are presented in each paragraph of section 6.8.2, depending on DMI information.

This example shows some of the visual indications.
6.8.2 RULE

6.8.2.1 Level transitions

6.8.2.1.1 Announcement of a level transition
When the following message is displayed:

“Transition to level ___ “,

the driver shall start applying rules according to level ___ at the transition point.

6.8.2.1.2 Acknowledgement of a level transition

6.8.2.1.2.1 Entering a level 0 area
When the following symbol is displayed with a flashing frame:

the driver shall:

- acknowledge,
- apply national rules.

6.8.2.1.2.2 Entering a level 1 area
When the following symbol is displayed with a flashing frame:

the driver shall:

- acknowledge,
- apply rules according to level 1.
6.8.2.1.2.3  **Entering a level 2 area**

When the following symbol is displayed with a flashing frame:

![Symbol](image)

the driver shall:

- acknowledge,
- apply rules according to level 2.

6.8.2.1.2.4  **Entering a level STM area**

When one of the following symbols is displayed with a flashing frame:

![Symbol](image)

or

![Symbol](image)

the driver shall:

- acknowledge,
- apply national rules.

6.8.2.2  **Level indications**

6.8.2.2.1  **Running in level 0**

When the following symbol is displayed:

![Symbol](image)

the driver shall apply national rules.
6.8.2.2  **Running in level 1**
When the following symbol is displayed:

![1](image)

the driver shall apply rules according to level 1.

6.8.2.2.3  **Running in level 2**
When the following symbol is displayed:

![2](image)

the driver shall apply rules according to level 2.

6.8.2.2.4  **Running in level STM**
When one of the following symbols is displayed:

![STM](image) or ![STM](image)

the driver shall apply national rules.
6.8.2.3 Status indications

6.8.2.3.1 Running in FS
When the following symbol is displayed:

![Symbol]

the driver shall:

- respect the permitted speed,
- respect the target speed at the target distance.

6.8.2.3.2 Entering OS
When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall:

- acknowledge,
- and start or continue running on sight.
6.8.2.3  Running in OS

When the following symbol is displayed:

the driver shall:

- run on sight as long as this symbol is displayed,
- respect the permitted speed,
- respect the target speed at the target distance,
- in level 1 check the aspect of any trackside signal:
  - stop the train in front of a stop aspect,
  - proceed in front of a proceed aspect and continue running on sight.

6.8.2.3.4  Entering SR

When the following symbol is displayed with a flashing frame:

the driver shall:

- first receive an authorisation for train movement,
- check the applicable speed limit,
- then acknowledge.
6.8.2.3.5  Running in SR

When the following symbol is displayed:

the driver shall:

- run on sight, unless a written order exempts him from running on sight in SR,
- respect the applicable speed limit,
- in level 1 check the aspect of any trackside signal:
  - stop the train in front of a stop aspect,
  - proceed in front of a proceed aspect and continue running on sight,
- in level 2 and in level 1 without trackside signal stop at the next ETCS marker board, contact the signalman and follow his instructions.

6.8.2.3.6  Entering UN

When the following symbol is displayed with a flashing frame:

the driver shall acknowledge.

6.8.2.3.7  Running in UN

When the following symbol is displayed:

the driver shall apply national rules.
6.8.2.4  Track conditions indications

6.8.2.4.1  Pantograph indications

6.8.2.4.1.1  Lower pantographs
When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall lower the pantographs.

6.8.2.4.1.2  Lowered pantographs
When the following symbol is displayed:

![Symbol]

the driver shall keep the pantograph lowered.

6.8.2.4.1.3  Raise pantographs
When the following symbol is displayed with a flashing frame:

![Symbol]

the driver is authorised to raise the pantographs.

6.8.2.4.2  Neutral sections indications

6.8.2.4.2.1  Announcement of a neutral section
When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall shut off power.
6.8.2.4.2  Running in a neutral section

When the following symbol is displayed:

![Symbol]

the driver shall keep the power shut off.

When this symbol is no longer displayed the driver is authorised to apply power again.

6.8.2.4.3  Non stopping indication

When the following symbol is displayed:

![Symbol]

the driver shall avoid stopping.

6.8.2.4.4  Inhibition of Magnetic Shoe Brake

6.8.2.4.4.1 Announcement of an inhibition of Magnetic Shoe Brake area

When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall release the Magnetic Shoe Brake, if applied, except in case of an emergency situation.

6.8.2.4.4.2  Running in an inhibition of Magnetic Shoe Brake area

a) When the following symbol is displayed:

![Symbol]

the driver shall not use the Magnetic Shoe Brake except in case of an emergency situation.
b) When the following symbol is displayed:

![Symbol]

the driver shall immediately release the Magnetic Shoe Brake except in case of an emergency situation.

6.8.2.4.5  Inhibition of Eddy Current Brake
6.8.2.4.5.1 Announcement of an inhibition of Eddy Current Brake area
When the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall release the Eddy Current Brake, if applied, except in case of an emergency situation.

6.8.2.4.5.2  Running in an inhibition of Eddy Current Brake area
a) When the following symbol is displayed:

![Symbol]

the driver shall not use the Eddy Current Brake except in case of an emergency situation.

b) When the following symbol is displayed:

![Symbol]

the driver shall immediately release the Eddy Current Brake except in case of an emergency situation.
6.8.2.4.6  **Inhibition of Regenerative Brake**

6.8.2.4.6.1  Announcement of an inhibition of Regenerative Brake area

When the following symbol is displayed with a flashing frame:

![Symbol Image]

the driver shall release the Regenerative Brake if applied except in case of an emergency situation.

6.8.2.4.6.2  Running in an inhibition of Regenerative Brake area

a) When the following symbol is displayed:

![Symbol Image]

the driver shall not use the Regenerative Brake except in case of an emergency situation.

b) When the following symbol is displayed:

![Symbol Image]

the driver shall immediately release the Regenerative Brake except in case of an emergency situation.

6.8.2.4.7  **Pressure seal**

6.8.2.4.7.1  Announcement of a request for pressure seal

When the following symbol is displayed with a flashing frame:

![Symbol Image]

the driver shall close the air conditioning intakes.
6.8.2.4.7.2 Running in an area requiring pressure seal

a) When the following symbol is displayed:

the driver shall keep the air conditioning intakes closed.

b) When the following symbol is displayed:

the driver is authorised to open the air conditioning intakes.

6.8.2.4.8 Radio hole indication

When the following symbol is displayed:

the driver is informed the train is in a radio hole.

6.8.2.5 Balise group message inconsistency

When the following message is displayed:

“Brakes applied due to data inconsistency within balise group”,

the driver shall contact the signalman and apply national rules.
6.8.2.6 Brake Intervention in case of overspeeding

6.8.2.6.1 Situation

The brake has been triggered and the following symbol is displayed:

![Symbol](image)

6.8.2.6.2 Rule

After brake intervention when the symbol has disappeared the driver is allowed to release the brake.

6.8.2.7 Release speed

6.8.2.7.1 Situation

The train is approaching the EOA and a release speed is displayed on the DMI.

6.8.2.7.2 Rule

When the following information is displayed:

<table>
<thead>
<tr>
<th>Current Train Speed</th>
<th>Permitted Speed</th>
<th>Release Speed</th>
</tr>
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<tr>
<td>20 km/h</td>
<td>50 km/h</td>
<td>26 km/h</td>
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In the situation shown:
- current train speed: 20 km/h,
- permitted speed: 50 km/h,
- release speed: 26 km/h.

the driver shall respect the indicated permitted speed.
When the following information is displayed:

In the situation shown:
- current train speed: 19 km/h,
- permitted speed: 9 km/h,
- release speed: 26 km/h.

the driver:
- is authorised to approach a signal or a buffer stop which is a short distance behind the EOA indicated on the DMI without exceeding the release speed,
- in level 1 shall check the aspect of the trackside signal:
  • stop the train in front of a stop aspect,
  • proceed without exceeding the indicated release speed in front of a proceed aspect.
6.9  RUNNING ON SIGHT
  (Levels 1, 2)

6.9.1  SITUATIONS
The driver has to run on sight from an operational point of view, whatever the status of the
system.

6.9.2  RULE
When a driver has to run on sight, he is obliged:

- to proceed with caution, controlling his speed, taking into account the line visible in
  advance, such that it is possible to stop short of any vehicle, EOA, stop aspect or
  obstacle,
- to respect the maximum speed for running on sight.
6.10 MANAGING FAILURES OF THE ONBOARD SYSTEM  
(Levels 1, 2)

6.10.1 SITUATIONS
A failure affecting the onboard system is detected.

6.10.2 RULE

6.10.2.1 Failure affecting the Loop Transmission Module
When a failure of the Loop Transmission Module is detected the driver shall contact the signalman; driver and signalman shall apply national rules.

6.10.2.2 Failure affecting the Balise Transmission Module
When a failure of the Balise Transmission Module is detected the driver shall isolate the onboard system and inform the signalman; driver and signalman shall apply national rules.

6.10.2.3 Failure affecting the Euroradio
When a failure of Euroradio is detected the driver shall inform the signalman.

a) During the preparation of the traction unit

In level 2 the driver shall request a change of traction unit:

If the traction unit has to be moved, the signalman shall authorise the driver to pass the EOA (rule AUTHORISED PASSING OF AN EOA),

If the traction unit has not to be moved, the driver shall switch off the onboard system.

In all other ETCS levels driver and signalman shall apply national rules.
b) While running

In level 1 with infill function by radio driver and signalman shall apply national rules.

In level 2 the driver shall take measures in case of lack of radio communication (rule MANAGING LACK OF RADIO COMMUNICATION).

6.10.2.4 Failure affecting the DMI

When a failure of the DMI is detected:

In level 1 driver and signalman shall apply national rules.

In level 2:

a) During the preparation of the traction unit

The driver shall request a change of traction unit.

If the traction unit must be moved, the driver shall inform the signalman; driver and signalman shall apply national rules.

If the traction unit must not be moved, the driver shall switch off the onboard system.

b) While running

When no information can be displayed the driver shall stop the train and inform the signalman; driver and signalman shall apply national rules.

6.10.2.5 Other failures

When the following symbol is displayed:

![Warning symbol]

the driver shall inform the signalman.
a) During the preparation of the traction unit

The driver shall request a change of traction unit.

If the traction unit must be moved, the driver shall isolate the onboard system and inform the signalman; driver and signalman shall apply national rules.

If the traction unit must not be moved, the driver shall switch off the onboard system.

b) While running

After coming to standstill the driver shall isolate the onboard system and inform the signalman; driver and signalman shall apply national rules.
6.11 A WAKENING OUTSIDE AN A WAKENING TRACK  
(L evels 1, 2, STM)

6.11.1 SITUATIONS
The driver has to awaken the train and the traction unit is in SB.

6.11.2 RULE
When requested by the onboard system, the driver shall:

- enter, re-enter or re-validate the Driver ID and the train number,
- select the corresponding ETCS level according to the Route Book,
- enter, re-enter or re-validate the RBC-ID and/or telephone number according to national rules.

6.11.2.1 The traction unit has to move as a train
The driver shall:

- enter the train data (rule ENTERING DATA),
- select “Start”.

6.11.2.1.1 In level 0
When the following symbol is displayed with a flashing frame:

the driver shall acknowledge and react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).
6.11.2.1.2  **In level 1 with trackside signals**

When the following symbol is displayed with a flashing frame:

![Symbol Image]

the driver shall acknowledge and react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).

6.11.2.1.3  **In level 1 without trackside signal**

Driver and signalman shall apply a2 of section 6.11.2.1.4.

6.11.2.1.4  **In level 2**

a) The radio communication has been established

a1) The system issues an MA

The driver shall react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).

a2) The system requests an acknowledgement for SR

When the following symbol is displayed with a flashing frame:

![Symbol Image]

the driver shall contact the signalman.
Before authorising a driver to start in SR, the signalman shall get the following assurances:

- check if all the conditions for the route are met according to national rules,
- check for speed limitations lower than the maximum speed for SR and include them in the ETCS Written Order 07,
- check if other restrictions and / or instructions are necessary and include them in the ETCS Written Order 07.

This applies:

- to train that is in front of an ETCS marker board from this ETCS marker board to the next one,
- in case the next ETCS marker board is not clearly identifiable from the current location of the train to the next ETCS marker board.

The signalman shall issue the ETCS Written Order 07.

Before acknowledging the driver shall receive permission to start in SR from the signalman by means of the ETCS Written Order 07.

The driver shall react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).

**b) The radio communication cannot be established**

When the following symbol and the following message are displayed:

```
  !
```

“Do you want to continue without communication session opened?”
the driver shall select “No” and, on request of the onboard system, confirm the level.

When asked by the onboard system he shall check the RBC ID and telephone number and correct them if necessary.

If the radio communication with the RBC still cannot be established, the driver shall report to the signalman.

The signalman shall decide to continue or not according to national rules.

If the train has to be moved, the signalman shall authorise the driver to pass the EOA (rule AUTHORISED PASSING OF AN EOA).

e) The train is rejected

When the following message is displayed:

“Train rejected”

and the train must be moved, the driver shall contact the signalman.

Signalman and driver shall apply national rules.

6.11.2.1.5 In level STM

When one of the following symbols is displayed with a flashing frame:

the driver shall:

- acknowledge,
- apply national rules.
6.11.2.2 The traction unit has to move in SH
The driver shall prepare for shunting (rule PERFORMING SHUNTING MOVEMENTS IN SH).

6.11.2.3 The traction unit has to move in NL
Intentionally blank.
6.12 PREPARING A TRAIN AS A TANDEM MOVEMENT FOR ASSISTANCE

Intentionally blank.
6.13 ENDING A TRAIN AFTER ASSISTANCE

Intentionally blank.
6.14 PASSING A TRANSITION POINT IN DEGRADED SITUATIONS
(from level 1 to level 2 and from level 2 to level 1)

Intentionally blank.
6.15 MANAGING UNPLANNED TEMPORARY SPEED RESTRICTIONS (Levels 1, 2)

6.15.1 SITUATIONS
An unplanned temporary speed restriction has to be managed.

6.15.2 RULE
When the signalman is informed about a situation that requires an unplanned temporary speed restriction he shall:

- stop trains already in the concerned section,
- prevent other trains from entering this section.

Before setting a route for a train to run in the concerned section, the signalman shall give the driver the unplanned temporary speed restriction:

- for tripped trains, signalman and driver shall take measures in response of a train trip (rule RESPONDING TO A TRIP), including the obligation to run under restrictions,
- for the other trains, the signalman shall give the obligation to run under restrictions to the drivers by means of the ETCS Written Order 05.

The driver shall respect the temporary speed restriction until the rear end of the train has passed the end of the section covered by the speed restriction.

The signalman shall apply these measures until the temporary speed restriction is managed by ETCS or included in the list of temporary speed restrictions.
6.16 AUTHORISED PASSING OF AN EOA (Levels 1, 2)

6.16.1 SITUATIONS

It is necessary to authorise a driver to pass an EOA.

6.16.2 RULE

Before authorising a driver to pass an EOA by means of the ETCS Written Order 01 the signalman shall:

- check if all the conditions for the route are met according to national rules,
- when he can establish in accordance with the national rules that the track is free exempt the driver from running on sight by use of the “additional instructions”, the wording of the additional instruction shall be “is exempted from running on sight in SR”,
- check for speed limitations lower than the maximum speed for SR and include them in the ETCS Written Order 01,
- check if other restrictions and / or instructions are necessary and include them in the ETCS Written Order 01.

To pass the EOA, the driver shall:

- receive ETCS Written Order 01 from the signalman ,
- check the applicable speed limit,
- use the override function,
- and when the following symbol is displayed:

  ![Symbol]

- restart according to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS),
- respect the override EOA speed limit while this symbol is displayed.
6.17 MANAGING LACK OF RADIO COMMUNICATION  
(Level 2)

6.17.1 SITUATIONS
Radio communication is lost in an area not identified as a radio hole and brakes are triggered.

6.17.2 RULE
When the following symbol is displayed:

![Symbol Image]

the driver shall report to the signalman.

When the train has come to standstill, in order to continue the signalman shall authorise the driver to pass the EOA (rule AUTHORISED PASSING OF AN EOA).
6.18 TAKING MEASURES IN THE EVENT OF AN EMERGENCY SITUATION
(Levels 1, 2)

6.18.1 SITUATIONS
An emergency situation occurs.

6.18.2 RULE

6.18.2.1 To protect the trains
When a performer discovers an emergency situation he shall perform all actions necessary to avoid or reduce the effect of the situation and inform the signalman as soon as possible. He shall apply national rules.

When a signalman is informed of an emergency situation he shall immediately protect endangered trains according to national rules.

To stop trains in level 2, he shall use the emergency stop order; the emergency stop order shall not be revoked before the trains are ready to restart.

The signalman shall stop all other trains approaching the danger area according to national rules.

The signalman shall inform all drivers as appropriate.

When the following symbol is displayed:

![Symbol](image)

the driver shall take measures in response to a trip (rule RESPONDING TO A TRIP).
6.18.2.2 To restart the trains

According to national rules, the signalman shall decide:

- when it is possible to authorise train movement,
- if instructions and/or restrictions for train movement are necessary.

For trains in level 2 the emergency stop order has to be revoked.

To restart trains that have been tripped, signalman and driver shall take measures in response to a trip (rule RESPONDING TO A TRIP).

For tripped trains the signalman shall include necessary instructions and/or restrictions for train movement according to national rules in ETCS Written Order 02.

For other trains if instructions and/or restrictions are necessary the signalman shall issue ETCS Written Order 05. In level 1 the driver shall run on sight until the next trackside signal.

6.18.2.3 To protect and restart shunting movements

The signalman and the driver shall apply national rules.
6.19 REVOKING AN AUTHORISATION FOR TRAIN MOVEMENT (Levels 1, 2)

6.19.1 SITUATIONS
The signalman decides to change existing traffic arrangements.

6.19.2 RULE

6.19.2.1 In level 1
To revoke an authorisation for train movement, the signalman shall apply national rules.

When national rules stipulate that a train has to be at standstill before making traffic arrangements, the signalman shall order the driver to remain at standstill by means of the ETCS Written Order 03.

To restart signalman and driver shall apply national rules. The signalman shall authorise the driver by means of ETCS Written Order 04.

6.19.2.2 In level 2

If possible the signalman shall revoke an MA by the use of the co-operative shortening of MA.

In all other cases, the signalman shall apply national rules.

When national rules stipulate that a train has to be at standstill before making traffic arrangements, the signalman shall order the driver to remain at standstill by means of the ETCS Written Order 03.

To restart the signalman shall authorise the driver by means of ETCS Written Order 04.
6.20 RESPONDING TO A TRIP  
(Levels 1, 2)

6.20.1 SITUATIONS
A train or a shunting movement is tripped.

6.20.2 RULE

6.20.2.1 Immediate measures
When the following symbol is displayed:

![Symbol]

the driver shall assume that there is a dangerous situation and he shall perform all actions necessary to avoid or reduce the effect of this situation. This may include moving the train backwards according to national rules.

a) When, in accordance with national rules, the driver decides to move the train backwards and when the following symbol is displayed with a flashing frame:

![Symbol with flashing frame]

the driver shall acknowledge and,

when the following symbol is displayed:

![Symbol]

shall release the emergency brake and move the train backwards.

After moving backwards as soon as the train is at standstill, the driver shall contact the signalman and inform him about the situation.
b) In all other cases, when the following symbol is displayed with a flashing frame:

![Symbol]

the driver shall:

- acknowledge when at standstill and,
- contact the signalman and inform him about the situation.

When the following symbol is displayed:

![Symbol]

the driver shall release the emergency brake.

6.20.2.2 To continue running

Before giving permission to the driver to proceed after train trip by means of ETCS Written Order 02 the signalman shall:

- check if all the conditions for the route are met according to national rules,
- when he can establish in accordance with the national rules that the track is free exempt the driver from running on sight by use of the “additional instructions”, the wording of the additional instruction shall be “is exempted from running on sight in SR”,
- check for speed limitations lower than the maximum speed for SR and include them in the ETCS Written Order 02,
- check if other restrictions and / or instructions are necessary and include them in the ETCS Written Order 02.
To proceed the driver shall:

- receive the ETCS Written Order 02 with all additional instructions given by the signalman,
- according to the mission select “Start” or “SH”, and follow the instructions given in the ETCS Written Order 02,
- restart according to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).

In the case of a train / shunting movement not required to be moved after a trip, the signalman shall order the driver to select “Start” and close the driving desk by means of ETCS Written Order 02 using the additional instructions part.
6.21 MANAGING ROUTE UNSUITABILITY  
(Levels 1, 2)

6.21.1 SITUATIONS

An incompatibility between the characteristics of the rolling stock and the characteristics of the line is detected.

6.21.2 RULE

When the following message is displayed:

“Route unsuitable”,

the driver shall stop the train and inform the signalman about the indication of route unsuitability.

If allowed by national rules the signalman shall authorise the driver to override the route unsuitability by means of the ETCS Written Order 06 with all necessary additional instructions.
6.22 ENTERING AN OCCUPIED TRACK SECTION WITHIN A STATION
(Levels 1, 2)

6.22.1 SITUATIONS
It is necessary to enter a track section that is occupied in a station for the purposes of:

- platform sharing,
- coupling of trains.

6.22.2 RULE
When a train has to enter an occupied track, the signalman shall:

- obtain confirmation that the occupying train is at standstill,
- if in level 2 operation, and the two trains have to be coupled, ensure that the occupying train has no movement authority (rule REVOKING AN AUTHORISATION FOR TRAIN MOVEMENT),
- set the route for the train that has to enter the occupied track.

In case of an unplanned movement, before setting the route, the signalman shall inform the drivers of both trains involved of the circumstances in accordance with national rules.

The driver of the train that has to enter the occupied track shall react to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS) and follow the instructions received.
6.23  PREVENTING UNINTENTIONAL MOVEMENT
       (Levels 1, 2)

6.23.1  SITUATIONS
After being at standstill the train is moving unintentionally.

6.23.2  RULE

6.23.2.1  Brake intervention due to standstill supervision
When the following message is displayed:

   “Brakes applied due to standstill supervision”,

the driver shall secure the train and acknowledge.

6.23.2.2  Brake intervention due to roll away protection
When the following message is displayed:

   “Brakes applied due to roll away protection”,

the driver shall secure the train and acknowledge.

6.23.2.3  Brake intervention due to reverse movement protection
When the following message is displayed:

   “Brakes applied due to reverse movement protection”,

the driver shall secure the train and acknowledge.
6.24 EMERGENCY PROPELLING IN RV (Levels 1, 2)

6.24.1 SITUATIONS
An emergency situation requires the train to be moved in the opposite direction in an emergency propelling area.

6.24.2 RULE
When the train has to be propelled in emergency according to national rules and the following symbol is displayed with a flashing frame:

the driver shall:

- acknowledge,
- propel the train in emergency as soon as the following symbol is displayed:

- respect the maximum speed for RV,
- and respect the permitted distance to run.

After the train has completed its emergency propelling and as soon as it is at standstill the driver shall report to the signalman.
7. GSM-R RULES

7.1 SELECTING THE GSM-R MODE

7.1.1 SITUATIONS
The driver switches on the onboard system; the result of the self test is OK and the driver needs to change the GSM-R mode.

7.1.2 RULE
When the displayed GSM-R mode does not correspond with the mission to be performed (train or shunting movement), the driver shall select the correct mode.
7.2 ENTERING THE FUNCTIONAL NUMBER

7.2.1 SITUATIONS

Data entry is necessary:

- before the initial departure,
- every time the functional number changes.

7.2.2 RULE

The train preparer / driver shall enter the functional number.
7.3 SELECTING THE NETWORK AT A BORDER CROSSING

7.3.1 SITUATIONS
The train is approaching a border crossing.

7.3.2 RULE
When according to the Route Book or a lineside board the driver has to select a new GSM-R network, he shall start the selection process unless he is engaged in an emergency call.
7.4 PERFORMING A DE-REGISTRATION

7.4.1 SITUATIONS
The train is leaving a GSM-R network or has ended its mission and has to be manually de-registered.

7.4.2 RULE
The driver shall carry out the de-registration process.
7.5 TAKING MEASURES IN CASE OF AN EMERGENCY CALL

7.5.1 SITUATIONS
An emergency situation occurs and an emergency call is used.

7.5.2 RULE
Driver and controller shall apply national rules.
7.6 MANAGING FAILURES OF THE ONBOARD SYSTEM

7.6.1 SITUATIONS
A failure affecting the onboard system is detected.

7.6.2 RULE

7.6.2.1 Failure detected during the self test
When the following message is displayed:

“Self test failed”,

the driver shall contact the controller; driver and controller shall apply national rules.

7.6.2.2 Missing network
When the following message is displayed:

“No network”,

the driver shall contact the controller; driver and controller shall apply national rules.

7.6.2.3 Failure while entering the functional number
When it is not possible to enter the functional number, the driver shall contact the controller; driver and controller shall apply national rules.

7.6.2.4 Failure of registration
a) When the following message is displayed:

“Number not available”,

the driver shall check the correct number and try again to register.

If the registration fails again, he shall contact the controller; driver and controller shall apply national rules.
b) When the following message is displayed:

“Number already used”,

the driver shall check the correct number and inform the controller if the number is correct.

Driver and controller shall apply national rules.

7.6.2.5 Failure of the onboard system while running

The driver detects a failure of the onboard system.

He shall contact the controller; driver and controller shall apply national rules.

7.6.2.6 Failure of de-registration

The driver shall contact the controller; driver and controller shall apply national rules.
8. GLOSSARY

This section defines the different terms used in the ETCS and GSM-R operational rules.

Acknowledgement:
Confirmation by the driver that he has received the information he needs to take into account.

Applicable speed limit:
When running in SR the applicable speed limit is the lowest speed limit of:

- timetable / Route Book,
- written order,
- maximum speed for SR.

Authorisation for train movement:
An authorisation for train movement can be given by:

- a trackside signal at proceed aspect or,
- an MA or,
- a written order:
  - to start in SR after awakening or,
  - to pass an EOA or,
  - to proceed after train trip.

Awakening:
Procedure starting from switching on the onboard system, continuing with self-test and finishing with the right relationship between onboard system and trackside equipment.
Awakening track:
An awakening track is a track fitted with particular systems to permit the train to awake and to start with an MA. Awakening tracks are indicated in the Route Book.

Border crossing:
Term for trains crossing from one national railway network to a neighbouring national railway network.

Communication session:
Communication link between the onboard system and the RBC.

Degraded situation:
Situation resulting from an event that prevents the normal delivery of train services.

De-registration:
Action that can be initiated by the user of a GSM-R radio, by automatic systems or by the network authority, to change the status of a GSM-R radio to de-registered.

The de-registration allows the de-registered train number to be re-used by another train.
DMI (Driver Machine Interface):
ETCS/GSM-R train borne device to enable communication between the onboard system and the driver.

Emergency call:
Call set up with the highest priority within a GSM-R network.

Emergency propelling:
A train movement performed in RV in emergency with the driver in a cab not on the front vehicle in the direction of running.

Emergency propelling area:
Area where emergency propelling movements are allowed in RV.

Emergency stop:
Halting of a train or a shunting movement after the driver has applied the maximum brake force as quickly as possible until the train is at standstill.

Emergency stop order:
Order to stop a train coming from the ETCS system applying the maximum brake force as quickly as possible until the train is at standstill.

EOA (End Of Movement Authority):
Location where the target speed indicated on the DMI is zero or where the next ETCS marker board is reached when running in SR.
**ETCS level:**

Way to express the possible operational relationships between track and train.

**ETCS train category:**

The ETCS category of train depends on the kind of rolling stock and on environmental characteristics.

The ETCS categories of train are indicated by the following 2 letters symbols:

- BT for basic train,
- AT for active tilting train,
- PT for passive tilting train,
- CW for cross wind sensitive train.

An ETCS train is defined:

- by one symbol only referring to the rolling stock or,
- by the combination of one of the symbols referring to the rolling stock with the symbol of environmental characteristics.

**ETCS status:**

Status of the ETCS onboard system with defined operational responsibilities.

**ETCS status symbol:**

Symbol indicating the current ETCS status.
**Functional number (for GSM-R):**
The full number used within the functional addressing scheme to identify an end user/system by function or role rather than by a specific item of radio equipment or user subscription.

The functional number can be divided into two areas:
- functional addressing,
- location dependent addressing.

**Gauge:**
Envelope within which the maximum dimensions of all rail vehicles and their loads are confined.

**GSM-R mode:**
Mode of the GSM-R onboard system with defined functions.

**GSM-R network:**
Radio network which provides GSM-R functions.

**MA (Movement Authority):**
Permission for a train to run to a specific location as a supervised movement.

**Marker board:**
Lineside information with a defined meaning. A marker board is a signal.

**Maximum speed for OS:**
Ceiling speed given from the trackside in OS.
Maximum speed for RV:
Ceiling speed given from the trackside in RV.

Maximum speed for SR:
Ceiling speed given from the trackside in SR.

Override EOA speed:
Permitted speed limit to be supervised when the override EOA function is active.

Onboard system:
ETCS equipment carried on the train with the aim of supervising vehicle operation according to information received from infrastructure installations, the driver, trackside signalling systems and other, non ETCS onboard systems.

Permitted Speed:
The speed limit at which a train is allowed to proceed without ETCS warning and / or intervention.

Planned Temporary Speed Restriction:
Temporary speed restriction that is implemented by the ETCS system or included in the list of temporary speed restrictions.

Preparation of the train:
All tasks to be performed before a train starts to run.
**Proceed aspect:**
Any signal aspect which permits the driver to pass the signal.

**Propelling:**
A movement where the driver is not in the leading cab of the leading vehicle.

**Radio communication:**
Exchange of information via radio link.

**RBC (Radio Block Centre):**
A centralised safety unit working with the interlocking to establish and control train separation and train movements, sending and receiving information via radio.

**Radio hole:**
A defined area where it is not possible by design to establish a reliable radio communication channel.

**Registration:**
Temporary relationship between the telephone number and the train running number.

**Release speed:**
A speed value to allow a train to approach the end of its Movement Authority. Needed for intermittent transmission to enable the train to approach a signal that has cleared in order to reach the balise point.

Needed to approach a signal as a buffer stop which is a short distance behind EOA indicated on the DMI.
**Revocation of MA:**
Withdrawal of a previously given permission to move a train.

**Route Book:**
Document or system that provides the driver with details of the line.

**Scheduled stop:**
Planned stop for commercial or operational reasons.

**Shunting movement:**
Way of running whereby movement is controlled by shunting signals.

**Stop aspect:**
Any signal aspect that does not allow the driver to pass the signal.

A stop aspect includes trackside signals and hand signals.

**Tandem:**
Two or more traction units mechanically but not electrically coupled, used in the same train and where each traction unit requires a separate driver.
**Target distance:**
Distance to the location where the train speed must be equal to or below the given target speed.

**Target speed:**
Speed that has to be respected at the location defined by the target distance.

**Temporary speed restriction:**
Reduction of the speed imposed for temporary conditions.

**Text message:**
Information in writing displayed on the DMI.

**Trackside signal:**
Fixed signal belonging to a defined track.

**Traction unit:**
All powered rail vehicles.

**Train:**
Traction unit or set of traction units with train data available, whether or not hauling one or more vehicles.

**Train data:**
Data defining the characteristics of the train.
Transition:
The controlled changes between the different ETCS levels.

Transition point:
Point where a transition between ETCS levels takes place.

Trip:
Irrevocable application of the emergency brakes by the ETCS system until the train is at standstill.

Unplanned temporary speed restriction:
Temporary speed restriction that is not implemented by ETCS and is not contained in the list of temporary speed restrictions.

Written order:
A written order is a safety-critical message issued by the signalman to the driver in order to convey an instruction.

Written orders may be transmitted physically on paper, as text or as a verbal message for the driver to write down.
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ANNEX A – WRITTEN ORDERS

The information contained in these written orders is mandatory, the presentation is informative.

The different written orders to be used according to the rules are the following:

- ETCS Written Order 01: Permission to pass an EOA,
- ETCS Written Order 02: Permission to proceed after train trip,
- ETCS Written Order 03: Obligation to remain at standstill,
- ETCS Written Order 04: Permission to restart after an order to remain at standstill,
- ETCS Written Order 05: Obligation to run under restrictions,
- ETCS Written Order 06: Permission to override route unsuitability,
- ETCS Written Order 07: Permission to start in SR after awakening.
1 - ETCS Written Order 01

### ETCS Written Order 01

#### PERMISSION TO PASS AN EOA

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**Driver of Train Number** ....... at ................................... on track .......

(km / signal)

1. [ ] is allowed to pass EOA at..............................................
   (km / signal)

2. [ ] run with maximum speed of ....... km/h
   from ................................ to ................................
   (km / signal) (km / signal)
   and ....... km/h from ................................ to .........................
   (km / signal) (km / signal)
   and ....... km/h from ................................ to .........................
   (km / signal) (km / signal)

3. [ ] additional instructions ..........................................................

........................................................................................................

**Authorisation Number** .........

Mark with a cross the boxes of the sections that shall become valid (\(\checkmark\)).

In the valid sections fill in the information on the dotted lines.

Delete non-valid text in brackets (example: km/signal).
PERMISSION TO PROCEED AFTER TRAIN TRIP

Signal box …………… Date ……/……/….. Time …… : ……

Driver of Train or Shunting Movement Number ………
at ……………………… on track ………………. (km / signal)

1 if no MA received, is allowed to start in SR
2 select SH
3 run with maximum speed of ……… km/h
   from …………………………… to …………………………… (km / signal) (km / signal)
   and ……… km/h from …………………………… to …………………………… (km / signal) (km / signal)
   and ……… km/h from …………………………… to …………………………… (km / signal) (km / signal)
4 examine the line, for the following reason : …………………………………
   ………………………………………………………………………………………………………………………………
5 report findings to ………………………………………………………………………………………………………
6 additional instructions……………………………………………………………………………………………………

Authorisation Number …………………………

Mark with a cross the boxes of the sections that shall become valid (☒).
In the valid sections fill in the information on the dotted lines.
Delete non-valid text in brackets (example: km / signal).
ETCS Written Order 03

OBLIGATION TO REMAIN AT STANDSTILL

Signal box ……………. Date ……/……./….. Time ……. : …….  

Driver of Train Number …….. at ………………………… on track ……….  

(km / signal)  

1 □ remain at standstill at current position

2 □ additional instructions ……………………………………………………………………….  

………………………………………………………………………………………..  

Authorisation Number ……………

Mark with a cross the boxes of the sections that shall become valid (☑). 
In the valid sections fill in the information on the dotted lines. 
Delete non-valid text in brackets (example: km / signal).
ETCS Written Order 04

PERMISSION TO RESTART
AFTER AN ORDER TO REMAIN AT STANDBSTILL

Signal box …………… Date ……/……/…… Time …….. : ……..

Driver of Train Number …….. at ……………………… on track ……………
(km / signal)

1 □ is authorised to restart

2 □ additional instructions ………………………………………………………………………………………………………
………………………………………………………………………………………………………………………………………………

Authorisation Number ……………

Mark with a cross the boxes of the sections that shall become valid (□).
In the valid sections fill in the information on the dotted lines.
Delete non-valid text in brackets (example: km / signal).
5 - ETCS Written Order 05

ETCS Written Order 05

**OBLIGATION TO RUN UNDER RESTRICTIONS**

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- **Driver of Train Number …… at …………………………… on track …………**
  - (km / signal)

  1. [ ] run on sight from …………………….. to ………………..
     - (km / signal)
     - (km / signal)

  2. [ ] run with maximum speed of …….. km/h
     - from ……………………… to ………………………
     - (km / signal)
     - (km / signal)
     - and …….. km/h from …………………….. to ………………………
     - (km / signal)
     - (km / signal)
     - and …….. km/h from ……………………… to ………………………
     - (km / signal)
     - (km / signal)

  3. [ ] examine the line, for the following reason : ………………………
     - …………………………………………………………………………………………………

  4. [ ] report findings to …………………………………………………………………

  5. [ ] additional instructions …………………………………………………………….

**Authorisation Number …………..**

Mark with a cross the boxes of the sections that shall become valid (X).
In the valid sections fill in the information on the dotted lines.
Delete non-valid text in brackets (example: km / signal).
### ETCS Written Order 06

**PERMISSION TO OVERRIDE ROUTE UNSUITABILITY**

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<td>……. : …….</td>
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</table>

**Driver of Train Number …….. at …………………… on track ……………**

(km / signal)

1. [ ] override route unsuitability

2. [ ] additional instructions ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………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## 7 - ETCS Written Order 07

**ETCS Written Order 07**

**PERMISSION TO START IN SR AFTER AWAKENING**

<table>
<thead>
<tr>
<th>Signal box ……………</th>
<th>Date ……/……/……</th>
<th>Time …… : ……</th>
</tr>
</thead>
</table>

**Driver of Train Number …….. at …………………………….. on track ……..**

<table>
<thead>
<tr>
<th>1</th>
<th>☐ is allowed to start in SR after awakening</th>
</tr>
</thead>
</table>
| 2 | ☐ run with maximum speed of …….. km/h  
  from ……………………… to …………………… |
|   | (km / signal) (km / signal) |
|   | and …….. km/h from …………………… to ………………… |
|   | (km / signal) (km / signal) |
|   | and …….. km/h from …………………… to ………………… |
|   | (km / signal) (km / signal) |
| 3 | ☐ additional instructions ……………………………………………………… |

**Authorisation Number ……..**

Mark with a cross the boxes of the sections that shall become valid (☑).

In the valid sections fill in the information on the dotted lines.

Delete non-valid text in brackets (example: km / signal).
ANNEX B – ETCS RULES NOT VALIDATED

1. ENTERING DATA
   (Levels 1, 2)

1.1 SITUATIONS
Data entry is necessary to prepare a train for service:
   - when awakening,
   - after each case of train characteristics having been modified; these modifications can be
     as a result of:
     • a modification of the train,
     • a failure affecting the rolling stock,
     • assistance given to a train.

1.2 RULE
Before the initial departure, the train preparer shall check the conformity of the train to its ETCS
train category.

Before the initial departure the driver shall check the availability of the train data and take this
information into account when driving. The same applies when changing the driver.

1.2.1 Entering data
a) General case

To perform the mission the train preparer shall enter and / or confirm the following sets of data:
   - train data,
   - additional data.

Train data include:
   - train number,
   - maximum train speed,
   - ETCS train category,
   - train length,
   - deceleration data,
- power supply,
- loading gauge,
- axle load,
- train fitted with airtight system,
- list of STM available.

**Additional data** refer to other parameters that may be needed to perform the mission and include:

- Driver ID,
- ETCS level,
- RBC identification / telephone number,
- adhesion factor,
- and, if required by the journey, the STM to be activated including additional STM data.

b) Case of tandem movement

Intentionally blank.

**1.2.1.1 Trainset**

Before confirming data, the train preparer shall ascertain that technical conditions of rolling stock allow the use of already stored data.

The train preparer has to check the status of the equipment of rolling stock that can have an impact on train data:

- after the preparation of the train in the departure station,
- after each case the composition of the train is modified,
- after a technical problem that leads to a modification of the data.

If there are no restrictions, the train preparer shall validate data displayed on the DMI.

If there are restrictions, the train preparer shall:

- determine the new data,
- correct this data,
- validate the new data.
1.2.1.2 Other trains
To enter train data, the train preparer shall use a train data form.

1.2.2 Changes of data

1.2.2.1 Change of data for a trainset
The driver shall:
- check the conformity of the train to its ETCS category,
- determine the new data,
- enter this data,
- validate the new data.

He shall do the same for each set of data to be changed if necessary.

1.2.2.2 Change of data for other trains
The train preparer shall modify the train data form or shall produce a new one each time the characteristics of the train are modified. If there is no train preparer the driver shall update the train data form.

To enter new train data, the driver shall:
- check the conformity of the train to its ETCS category,
- use the new train data form,
- correct the data,
- validate the new data.

1.2.2.3 Change of adhesion conditions
When the following symbol is displayed:

[Symbol Image]

the driver shall apply national rules.
2. PASSING A TRANSITION POINT IN DEGRADED SITUATIONS
(from level 1 to level 2 and from level 2 to level 1)

2.1 SITUATIONS
The radio communication cannot be established when entering a level 2 area, or a transition does
not take place when passing the transition point.

2.2 RULE

2.2.1 The radio communication can not be established
When the following symbol is displayed:

![Symbol]

the driver shall check the RBC ID and telephone number and correct them if necessary.

If the communication with the RBC cannot be established and the train has to be moved, the
signalman shall authorise the driver to pass the EOA (rule AUTHORISED PASSING OF AN
EOA).

2.2.2 The transition does not take place when passing the transition point

2.2.2.1 If the train has been tripped
The driver and the signalman shall take measures in response of a train trip (rule RESPONDING
TO A TRIP).

When at standstill the driver shall:

- check the correct ETCS level to select,
- change the ETCS level,
- restart according to the indications displayed on the DMI (rule REACTING TO DMI /
  SIGNALLING SYSTEM INSTRUCTIONS).
2.2.2.2 *If in SR*

The driver shall:

- stop the train,

- apply section 2.2.2.3.

2.2.2.3 *In all other cases*

The driver shall:

- inform the signalman,
- when at standstill check the correct ETCS level to select,
- change the ETCS level,
- restart according to the indications displayed on the DMI (rule REACTING TO DMI / SIGNALLING SYSTEM INSTRUCTIONS).
## ANNEX C – TABLE OF LINKED NATIONAL RULES

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