

# Annexes

## Annex Data provision

### 1 Current situation

#### **Version 2.0 dated 9 December 2022**

The RU must send the infrastructure manager data as outlined in this Appendix so that traffic on the IM's network can be managed and the train-path price calculated effectively.

### 2 Legal information

The RU is responsible for ensuring that the data supplied is correct and complete, irrespective of the form of delivery. Missing or incorrect data may result in a train being unable to continue its journey until the information is supplied, or in standard values from the List of Services being used when calculating the basic price by wear and/or the power consumption.

The right to modify required operational data in line with legal requirements (e.g. due to changes to customs regulations) necessitating the provision of further data is reserved.

Depending on the transmission route chosen, data may be transmitted as a basic service at no cost. Upon request, IT systems may be used for additional purposes or data may be obtained either as a free basic service or as a service subject to a charge. The data transmitted may be modified due to operationally essential occurrences.

The data collected will be used to provide the relevant infrastructure service (e.g. timetable planning, train control, customer information, billing). The data will also be disclosed to third parties if required for providing services and/or to fulfil overriding obligations (e.g. statutory requirements).

### 3 Passenger services and all light engine trains

#### **3.1 Data to be supplied**

Train formation data to be transmitted electronically:



- train path ID
- train number
- operating day or traffic period
- timetable period
- RU
- formation journeys with start and end operating points including arrival and departure times.
- coupling of the formation element (inward train, outward train) at the start or end of the formation journey
- productive power (vehicles of the same rotation that are assigned together)
- direct run of the wagons (coupling of formation elements between trains without the passengers having to leave the vehicles)
- drive type (code) incl. assignment to the vehicle type in the ZIS-FOS master data
- vehicle type per coach body (All wagon bodies that are part of a specific articulated vehicle must be provided under the same movement type)
- equipment features (seats 1st and 2nd class, wheelchair spaces; air- conditioning and other)
- wagon number for reservations
- whether the locomotive is towed. Optional, for deduction from train-path costs
- vehicle condition for customers: open, closed
- EVN of the vehicles, mandatory for locomotives and articulated trains (The EVN is the 12-digit vehicle number registered in the register of vehicles for energy billing according to Section 5.)
- operating power of the locomotive
- role of the locomotive
- train sequence (optional)
- brake sequence (optional)
- precise length of the hauled load (wagons plus towed traction units) for trains with an overall length > 500 m (optional, for claiming the long trains bonus)

## 3.2 Methods of delivery

The correct formation data for passenger trains and all light engine trains (passenger and freight services) must be supplied to SBB Infrastructure via the IT system ZIS-FOS. This can be done in the following ways:

- Data provision to ZISFOS via an electronic interface using defined messages (XML) according to the interface specifications in consultation with SBB Infrastructure. The interface can be set up for a fee.
- Direct data entry in the ZIS-FOS user interface.
- Importing the formations stored in NeTS for annual and daily data into ZIS-FOS. The RU shall be responsible for checking that the data imported from FOS is correct and complete.

- Since ZIS-FOS does not contain a data field for the length of the hauled load, the corr as per section 3.1 must be reported by e-mail to [onestopshop@sbb.ch](mailto:onestopshop@sbb.ch).
- ZIS-FOS transmits the freight service tractions to ZIS-Formations for all supply channels and can be checked/updated during train inspection. If the locomotive type, number of locomotives and route are identical to the data confirmed during train inspection, the EVN number is updated in the production calendar once train inspection is complete.

### 3.2.1 Disruptions

If it is not possible to deliver the data due to a disruption, the data that is required for operations must be entered and sent as soon as possible once the interruption has ended.

### 3.2.2 Outlook

Left blank at present.

## 3.3 Delivery intervals

The RU must send data to SBB Infrastructure as follows:

1. Provision of complete annual data at the latest one week after provisional train path allocation (for the SBB Infrastructure annual planning).
2. Subsequent provision of complete annual data at a two-week interval (even if no changes have been made) so that it can be ensured that the annual data is up to date.
3. The daily data may be sent from 40 days prior to the journey. However, the data must be sent no later than 3 operating days after the journey. This still applies if the daily data does not deviate from the annual data. Alternatively, generation of the daily formations from NeTS can be requested in ZIS-FOS.
4. Any change to the SMS-RU must be reported via ZIS before the train departs.

## 3.4 Contact

ZIS-FOS contact for any questions, problems and requests for access rights:

SBB Infrastruktur  
[zis@sbb.ch](mailto:zis@sbb.ch)

## 3.5 Further use of systems

The sales contacts will be happy to advise on the purchase of IT services from SBB Infra: CMS User  
(use of the IT systems and access to data):

SBB Infrastruktur (I-ESP-VK, Hilfikerstrasse 3, 3000 Bern 65, Schweiz)  
[verkauf@sbb.ch](mailto:verkauf@sbb.ch)

## 4 Freight traffic

### 4.1 Data to be supplied

#### 4.1.1 Obligatory for all freight trains

- customer accounting code (ordering RU)
- SMS-RU (RU managing the train)
- train number
- departure date
- train's departure station code (incl. UIC country code)
- train's destination station code (incl. UIC country code)
- UIC border entry code (if any) and scheduled date of border crossing
- special interchange station for wagons (if any)
- message type
- motive power units along entire route: code and EVN (for energy billing according to Section 5), position within the train composition, type of brake, unladen weight, braking force, type of traction (thermal, electric with/without recuperation), Vmax of the tractive force, holding force (in kN)
- train and brake sequence
- train's maximum speed
- wagon number plus loading unit number for intermodal traffic
- wagon owners
- Shipment identification number consisting of UIC country code, UIC station code, RICS code and shipment number
- RU's RICS code for the transferring and accepting RU/ carrier
- country code of the wagon or consignment's forwarding station
- wagon or consignment forwarding station code
- loading point (if forwarding station is in Switzerland)
- country code of the wagon or consignment's destination station
- wagon or consignment destination station code
- shipment date
- unloading point (if destination station is in Switzerland)



- for cross-border services at least the wagons' UIC border entry and/or departure code (and routes) for Switzerland
- wagon's position number in the train composition
- composition group in the train
- number of axles per wagon
- wagon's unladen weight
- length over buffers
- handbrake type code and Handbrake loading weight (in kilonewtons or tonnes)
- coupling design
- wagon's brake type, status and equipment
- braked and brake changeover weights and the wagon's current braked weight
- any special characteristics of the brakes
- number of brake units on wagon
- load limit chart
- agreed chart
- maximum speed of wagon (as a function of load, construction and damage)
- load weight
- any faults on the wagon bill and damage
- date of last overhaul and safety allowance
- date of last special inspection and period between inspections (if applicable)
- load carriage restriction code (damage/engineering; if applicable)
- form, type and hazard (FTH/FAG) code
- structure gauge for combined traffic vehicles (P/C or NT profile per coach), time of introduction to be clarified.

#### 4.1.2 Additional requirements for dangerous goods

##### **For each wagon or each loading unit in combined traffic**

- hazard number (Number indicating the level of danger): for conveying type "tank" or "loose bulk goods"
- material number (UN number)
- RID class
- packing group
- form, type and hazard (FTH/FAG) code)

##### **For each wagon or each loading unit in combined traffic with more than 8 tonnes of dangerous goods packed in limited quantities (LQ)**

- form, type and hazard (FTH/FAG) 97

- load carriage restriction
- form, type and hazard (FTH/FAG) code
- permit number of exceptional load

#### 4.1.4 Trains without loads

At the station from which a freight train with planned load runs without load, it is mandatory to create a «control» without wagons or «vacat» in ZIS before the train departs.

## 4.2 Method of delivery

The correct formation data for freight trains must be delivered to SBB Infrastructure's ZIS (Zug-Informationen-System).

For transmitting data to ZIS, the following options are available to RUs at no cost:

- Data acquisition via internet/Citrix emulation using the "Train Control" application. (The further use of other ZIS applications is described in section 4.5).
- Data transfer via UIC Hermes train pre-notification

If requested by the RU, operationally essential data can be agreed via a different interface, subject to a charge.

#### 4.2.1 Disruptions

The RU is responsible for ensuring that data is supplied on time, in full and without any errors. If data is not sent correctly, the standard values per train category published by SBB Infrastructure in the List of Services shall be used as the basis for billing.

If it is not possible to send data electronically due to a disruption, the most important operational data for freight services must be sent immediately to the designated office (SBB network management in Bern) via e-mail [netzleitung@sbb.ch](mailto:netzleitung@sbb.ch). A corresponding model list (template) can be obtained from the system managers and is available on the ZIS-Help intranet site.

The necessary data must also be entered into the system/delivered electronically by the RU once the disruption has been resolved.

#### 4.2.2 Outlook

Left blank at present.

## 4.3 Delivery time

The correct formation data for freight trains defined by the RU and the infrastructure manager must be entered into SBB Infrastructure's ZIS (Zug-Informationen-System) before the departure or border crossing of the train.

## 4.4 Contact

ZIS contact for any questions, problems and requests for access rights:

SBB Infrastruktur  
[zis@sbb.ch](mailto:zis@sbb.ch)

## 4.5 Further use of systems

The sales contacts will be happy to advise on the purchase of IT services from SBB Infrastructure (use of the IT systems and access to data):

SBB Infrastruktur  
I-ESP-VK  
Hilfikerstrasse 3  
3000 Bern 65  
Schweiz  
[verkauf@sbb.ch](mailto:verkauf@sbb.ch)

### 4.5.1 Wagon management system

During 2022, SBB Infrastructure will be introducing a new wagon management system at certain formation stations. A charge for using WaVe can be agreed. On request, it can be arranged as a separate service.

## 5 Delivery of energy measurement data

### 5.1 Data to be supplied

In order that the actual amount of energy consumed can be billed, the readings from the energy measurement systems and the relevant EVN (12-digit vehicle number) must be transmitted in a timely manner. Provision of the EVN forms part of the data that is to be supplied for each train in accordance with Sections 3.1 and 4.1 of this Appendix.

Irrespective of which measurement service provider is chosen, the RU is responsible for measuring electricity consumption in accordance with Article 20a, para. 3, Rail Network Access Ordinance. CMS User

## 5.2 Method of delivery

The energy readings are to be transmitted to the infrastructure manager's billing system in accordance with IRS 90930. The infrastructure manager uses the system EREX Exchange for this. The RU is responsible for implementing the relevant interfaces with EREX Exchange.

### 5.2.1 Handling missing and implausible data

If any data for vehicles which are registered for energy billing is missing or implausible, alternative values or flat rates as shown in the List of Services will be applied.

The situations where this applies include:

1. failure of the energy measurement systems
2. the readings are incorrect or implausible and therefore invalid, or readings for individual sections of a train route are missing.
3. the EVN of a registered vehicle is missing or incorrect.
4. data is not submitted to the infrastructure manager within the time specified in Section 5.3 of this Appendix.

If the IM detects missing or implausible data, the RU will be told that there is a problem. From this moment, the RU will have 60 consecutive operating days within Switzerland to carry out the necessary repair work. If the RU fails to inform the IM before the 60-day period has expired that data deliveries have been restored as set out at Point 5.1 of this Appendix, then billing will be based on the flat rates per train category as published in the IM's List of Services. As regards returning to 'actual' billing, Point 3.1 of NWS Annex «Energy Measurement Systems» applies.

### 5.2.2 Outlook

Left blank at present.

## 5.3 Delivery interval

The measurements and the associated EVN must be provided to the infrastructure manager daily (no later than the operating day of the train path + 3 days at 22:00).

## 5.4 Contact





## 6 Amendments

Version	Date	Amendment	Comment
2.0	09.12.2022	Adjustments in connection with the CIS->ZIS migration  Adjustment to the repair procedure at Point 5.2.1	<p>The previous designation 'CIS' has already been replaced by 'ZIS', now that migration to the successor system has begun. However, both systems will remain active during the transition phase. RUs will be contacted separately when it comes to the changeover.</p> <p>Up to now, the repair procedure only envisaged that the IM would notify the RU. It was not envisaged that the RU would report back to the IM that the repair had been carried out. This gap in the procedure has now been closed with RUs now obliged to report back to the IM. At the same time, the period available for carrying out a repair has been doubled from 30 to 60 operating days.</p>
1.0	02.08.2021	Publication  Section 1 IM-neutral wording  New sections 3.2.2, 4.2.2 and 5.2.2  Section 5.2.1 clarified	<p>This Appendix on data provision was previously published separately for each timetable year. For this version, the 2021 (version 2.0 from 7 May 2020) and 2022 (version 1.0 from 19 November 2020) editions have been retrospectively collated into one appendix which does not refer to a specific timetable year. The previous PDF format has been replaced by a web version.</p> <p>Section 1 on the current situation no longer mentions a specific infrastructure manager so that other IMs can link to the Appendix.</p> <p>The new sections 3.2.2, 4.2.2 and 5.2.2 have been added to provide an outlook on future developments for data provision.</p>

Section 5.2.1 has been clarified as relates to communication in the event of problems with data provision.