SLOVENSKI STANDARD
SIST-V CEN/CLC Guide 26:2014

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Železniške naprave - Priprava standardov za načrtovanje, izvedbo, proizvodnjo, obratovanje in vzdrževanje urbanih železniških sistemov

Railway applications - Preparation of standards for urban rail systems design, construction, manufacture, operations and maintenance

Bahnanwendungen - Vorbereitung auf Normen an Schienennahverkehrssysteme Planung, Bau, Herstellung, Betrieb Und Instandhaltung

Applications ferroviaires – Préparation des normes pour la conception, la construction, la fabrication, l'exploitation et la maintenance des réseaux ferroviaires urbains

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CEN-CENELEC GUIDE 26

Railway applications – Preparation of standards for urban rail systems design, construction, manufacture, operations and maintenance

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Introduction

This document is the one mentioned as "Fundamental requirements" in the “Mandate for programming and standardisation in the field of Urban Rail” M/486 EN addressed to the European Standardisation Bodies in order to develop standards for voluntary use. This document shall be used as a reference for the execution of this mandate.

This document is intended to serve as a recommendation for Competent Authorities responsible for design, construction, operation and maintenance of Urban Rail systems.

The starting point for this document is the fact pointed out in the mandate that the so-called “Essential Requirements” for interoperability set out in Annex III of the Interoperability Directive 2008/57/EC were not intended to cover urban and local rail systems.

The scope is covering general requirements as presented in Clause 4 and requirements related to sub-systems as presented in Clause 5.

1 Scope

This document applies to Urban Rail systems design, construction, manufacture, operations and maintenance.

Urban Rail systems cover both Urban Guided Transport systems (UGT) and other rail systems which might be excluded from the scope of the Interoperability Directive 2008/57/EC (Article 1.3 (a) and (b))[1].

Urban Guided Transport systems (UGT), which cover Metro, Tram and Light Rail, are defined as public transport systems permanently guided at least by one rail, intended for the operation of local, urban and suburban passenger services with self-propelled vehicles and operated either segregated[2] or not from general road and pedestrian traffic.

Categories of Urban Rail systems include:

- (I) Metros: UGT systems operated on their own right of way and segregated from general road and pedestrian traffic. They are consequently designed for operations in tunnel, viaducts or on surface level but with physical separation in such a way that inadvertent access is not possible. In different parts of the world, Metro systems are also known as the underground, the subway or the tube. Rail systems with specific construction issues operating on a segregated guideway (e.g. monorail, rack railways) are also treated as Metros as long as they are designated as part of the urban public transport network.

- (II) Trams: UGT systems not segregated from general road and pedestrian traffic, which share their right of way with general road and/or pedestrian traffic and are therefore embedded in their relevant national road traffic legislation (highway codes and specific adaptations).

- (III) Light Rail: Light Rail is defined as a UGT system operated in parts of the system not segregated from general road and pedestrian traffic, and in parts of the system with segregated right-of-way. The segregation may include some sections of line where inadvertent access is not possible.

- (IV) Local rail systems which by national decision complying with Article 1.3 (a) or (b) of Directive 2008/57/EC may be excluded from the European Community Rail System. Such systems connect city centres with their suburban hinterland or regional local centres. Such systems are operated on rights of way which are basically segregated from general road and/or pedestrian traffic and/or which can be declared by law as independent from the public environment even if they are not segregated by location, form of construction or appropriate measures. For historical reasons they might be strongly influenced by conventional railway parameters and their operations procedures.

2 Object

The object of this document is to give guidance for the preparation of standards for Urban Rail systems design, construction, manufacture, operations & maintenance.

This guidance is intended to be used notably by CEN/TC256 and CLC/TC9X and all those potentially concerned with the preparation of standards for Urban Rail systems design, construction, manufacture, operations and maintenance.

[1] (a) Metros, Trams and other Light Rail systems;
(b) networks that are functionally separate from the rest of the rail system and are intended only for the operation of local, urban or suburban passenger services, as well as railway undertakings operating solely on these networks; […].

[2] The segregation is achieved by appropriate measures such as kerbstones, railings, hedges, rows of trees, level crossings or fixed barriers of fences.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
construction and manufacturing
new construction or manufacturing as well as a significant change to a system, sub-system or component (e.g. infrastructure or rolling stock)

Note 1 to entry: "Construction" applies to construction, extension, upgrade and renewal.

3.1.2
design
initial project phase of the development of a system, sub-system or component covering all steps from preliminary outlines to final documentation before implementation

3.1.3
guideway
part of infrastructure intended for movements or storage of trains (including sidings and stabling areas)

Note 1 to entry: The guideway is made up of engineering structure (including tunnels, viaducts and bridges) and track.

3.1.4
infrastructure[3]
encompasses stopping places and stations (places where passengers can enter or leave the system) and guideway

3.1.5
maintenance[4]
maintenance of infrastructure, rolling stock and other subsystems covers all preventive and corrective activities intended to keep a system or sub-system in proper operating condition

Note 1 to entry: This covers prevention of failures in service, retarding deterioration, and repairing or replacing components or equipment after failure.

3.1.6
operations[5]
all measures intended to effect the transport of passengers, both under normal and degraded conditions, including training of operations staff, traffic planning and management

[3] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU ("2.1. Infrastructure: The track, points, engineering structures (bridges, tunnels, etc.), associated station infrastructure (platforms, zones of access, including the needs of persons with reduced mobility, etc.), safety and protective equipment.")

[4] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU ("The procedures, associated equipment, logistics centres for maintenance work and reserves providing the mandatory corrective and preventive maintenance to ensure the interoperability of the rail system and guarantee the performance required.").

[5] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU ("Operation and traffic management: The procedures and related equipment enabling coherent operation of the various structural subsystems, during both normal and degraded operation, including in particular train composition and train driving, traffic planning and management; The professional qualifications which may be required for carrying out cross-border services.").

3.1.7
passenger information systems[6]
applications providing passengers with information before and during the journey

3.1.8
rolling stock[7]
single or multiple unit vehicles operated on urban rail systems as a train-set or as a part of a train-set

Note 1 to entry: Rolling stock, which is not intended to be separated during train operation, is considered to be one train set.

3.1.9
signalling, Automatic Train Control and Operations Control Systems[8]
all the equipment necessary to ensure safe movements of trains, including control of route elements, as well as to manage and supervise train operations and possibly to ensure safe passenger transfers between trains and platforms

Note 1 to entry: These include: Signalling Systems, Automatic Train Control Systems, Operations Control Systems.

3.1.10
stations
parts of the infrastructure intended for boarding and alighting of passengers to/from trains (e.g. platform areas) as well as areas providing access from the public environment to the transport system, i.e. the area under the responsibility of the transport company

3.1.11
stopping places
intended for boarding and alighting of passengers as part of the public environment

3.1.12
ticketing systems[9]
aspects related to fare selection, sale and validation of tickets or passes, and control of access to - or exit from - the system

3.1.13
traction power supply[10]
system, including electric power generation, transformation and conversion, power distribution and power storage

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[6] This definition is different from the one given under “Telematics Applications” in Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU. (“Telematics Applications. In accordance with Annex I, this subsystem comprises two elements:
(a) applications for passenger services, including systems providing passengers with information before and during the journey, reservation and payment systems, luggage management and management of connections between trains and with other modes of transport;
(b) applications for freight services, including information systems (real-time monitoring of freight and trains), marshalling and allocation systems, reservation, payment and invoicing systems, management of connections with other modes of transport and production of electronic accompanying documents.”).
Indeed, the term “Telematics Applications” covers too wide a range of issues not applicable to urban rail.

[7] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU (“Structure, command and control system for all train equipment, electric current collection devices, traction and energy conversion units, on-board equipment for electricity consumption measuring, braking, coupling and running gear (bogies, axles, etc.) and suspension, doors, man/machine interfaces (driver, on-board staff and passengers, including the needs of persons with reduced mobility), passive or active safety devices and requisites for the health of passengers and on-board staff.”).

[8] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU (“2.3. Trackside control-command and signalling: All the trackside equipment required to ensure safety and to command and control movements of trains authorised to travel on the network.” & “2.4. On-board control-command and signalling: All the on-board equipment required to ensure safety and to command and control movements of trains authorised to travel on the network.”).

[9] See previous footnote.

[10] This definition is different from the one of Annex II of the Directive 2008/57/EC modified by Directive 2011/18/EU. The words “Traction Power Supply” are used instead of the word “Energy” and the definition is slightly changed (“The electrification system, including overhead lines and the trackside of the electricity consumption measuring system.”).