



Crossrail

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CCOS Catalogue of Railway Code Systems

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Specify any Holds within the document.

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Specify significant change from previous revisions of the document. (From Rev. 1.0 onwards)

Revision	Section	Description of Change

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1. Overview

1.1 Introduction

1.1.1 The Catalogue of Railway Code Systems is the primary source of information about the railway information systems that have been adopted under the CCOS Railway Code Systems (the Code).

1.1.2 The Code is essentially a charter for ethical business practice and assures effective management of Rail for London (Infrastructure) Limited (RfL(I)) and other industry organisations, owned and shared use systems. It defines the responsibilities of system owners and users of systems and helps to ensure that railway information systems continue to support the safe and effective operation of the Crossrail Central Operating Section (CCOS) and the wider railway network

1.1.3 Under section 7 (Catalogue of Railway Code Systems) of the Code, RfL(I) is obliged to distribute the catalogue to each user organisation. The scope and content of the catalogue is also specified in section 7 of the Code.

1.1.4 The catalogue will be subject to periodic updates and incremental sections.

1.2 Purpose

1.2.1 This document provides

- an index of key characteristics of each of the Railway Code Systems
- a description of the relationship between this catalogue and Railway Code Systems

1.2.2 The catalogue will be distributed to the main contact representing the interests of each company having or entitled to have a contract with RfL(I) for use of a Railway Code System. The catalogue will be updated periodically.

1.2.3 The catalogue is intended to assist users of Railway Code Systems to interpret the explicit and implied impact of proposed application changes. Additional information can be requested in the normal course of consultation on systems changes, undertaken under the Code.

1.3 Precedence

1.3.1 In the event that any statement or interpretation in or of this document differs in any way from the Code, then the latter shall take precedence.

2. Outline

2.1 Content Managed by the Code

2.1.1 Section 7 of the Code specifies the catalogue and defines its content. For each Railway Code System the following information is required:

- its title;
- the name of the Systems Owner;
- whether it is a Necessary System or an Expedient System;

- its main functions and features;
- its relevance to the Railway Industry;
- whether it is a safety-related Railway Code System;
- a summary of current Systems Release Proposals and Release Development Plans relating to it;
- an indication of relevant contract provisions;
- categories of data to be exchanged using the Railway Code System; and
- a list of Double Dot Releases (identified by system, number and date only).

2.2 Definitions

2.2.1 Each Railway Code System is defined either as a Necessary System or as an Expedient System.

Necessary System - a computer application (not being an operating system, proprietary database, software package or other general-purpose substrate of an application) or Interface Specification whether owned by RfL(I) or not, use of which is necessary for or in connection with the operation of trains on or access to RfL(I)'s Infrastructure.

Expedient System - a computer application (not being an operating system, proprietary database, software package or other general-purpose substrate of an application) or Interface Specification of which RfL(I) (or any Affiliated or Related Undertaking) is owner and the use of which is expedient (but not necessary) for or in connection with the operation of trains on or access to RfL(I)'s Infrastructure.

2.2.2 Other definitions for the purpose of this document are:

Integer Release - an enhanced or significantly modified version of a Railway Code System issued or implemented by RfL(I) as the current fully supported operational release and which then replaces the version previously in use.

Dot Release - a release of software to:

- i. correct a failure of a Railway Code System to comply with specification, or
- ii. remedy an operational failure, or
- iii. implement a minor change or enhancement,

that in achieving its aims changes the look, feel, function or external interfaces of a system in a way that is or may become apparent to a User of that system but for which the User will not require training.

Double Dot Release - a modification to a Railway Code System which does not change the look, feel, and functioning or external interfaces of the system in a way that is apparent to a User.

2.3 Structure

2.3.1 The catalogue is compiled to meet the requirement specified in section 7 of the Code and repeated in 2.1 above. In this context it is a compendium of information extracted from other more detailed data sources maintained and stored by RfL(I).

3. Catalogue Source Documentation

3.1 Contracts and Service Descriptions

3.1.1 The standard contractual terms under which railway companies obtain access to and use of Railway Systems are embodied in:

- RfL(I) Track Access Agreement
- [RfL(I) Software Licence]
- [Contract for Computer Services]

3.2 Release Proposals and Development Plans and Double Dot Releases

3.2.1 Release proposals reflect potential developments of Railway Code Systems. They will reflect the requirements of users, owners and other parties with a legitimate interest in Railway Code Systems. Release proposals and plans will be distributed as a basis for consultation and information under the Code. It is not intended that these detailed documents become a physical component of this catalogue. Volume alone would make this impractical. All proposals and plans may be accessed through the contact details in Section 6.

4. Publishing and Access Policy

4.1 Publication

4.1.1 The catalogue will be distributed electronically on a regular basis. It will continue to be maintained through the Annual Review of Railway Code Systems. A single copy will be made available to a specified holder within each user organisation either electronically or hard copy.

4.1.2 A copy of this catalogue will be available for inspection through the contacts listed in section 6.

4.2 Access to Source Documentation

Source	Access
RfL(I) Track Access Agreement [Contract for Computer Services] [RfL(I) Software Licence] [RfL(I) Service Specifications]	User organisations should be in possession of their own versions of these documents.
System Release Proposals Release Development Plans	These documents will be distributed in compliance with the Code. Copies can be viewed at or obtained from the contact details in Section 6

5. System Index

5.1 Kestrel - Performance Management System (PMS)

Description	Historic train performance management system
Owner	UIC
Classification	Expedient
Material Safety Implication	Has no material safety use.
<p>Overview</p> <p>5.1.1 Collects all train movements and compares to actual times to those planned in the working timetable. The PMS drives the information for the Train Performance Incentive Regimes.</p> <p>5.1.2 PMS is designed to present information about the movement of train services in an easy-to-understand format. The information is also used to drive Schedule 8 of the CCOS Track Access Agreement contracts in operation between RfL(I) and Track Access Beneficiaries.</p> <p>5.1.3 The system works by taking a copy of each train's schedule (the train's planned journey details) and creating a parallel record against which the actual departure, arrival and passing times at locations on the schedule are recorded.</p> <p>5.1.4 The actual train movement events are generated automatically. Reports of train times can be made manually. The historic records of train journeys and delays can be amended.</p>	

5.2 Line Wide Overview Display (LWOD)

Description	Graphical representation of train movements on the Elizabeth Line
Owner	RfL(I).
Classification	Expedient
Material Safety Implication	Has no material safety use.

Overview

- 5.2.1 LWOD is a system that integrates all train running monitoring functions and provides a map-based display of current and historical train running facilities. Data is collected from the signalling system, compared against schedules, and displayed on a track-level map.
- 5.2.2 The LWOD application records the actual arrival / departure / passing times of trains at specific points in the journey , and assists route look ahead at a strategic level.
- 5.2.3 The Crossrail Central Operating Section is displayed in a high degree of detail including route, system alarms and platform screen doors status and condition for each station. Sections of route managed by other infrastructure managers are displayed in a lower resolution.

5.3 Codes for Operations, Retail & Planning (CORPUS)

Description	Codes for Operations, Retail & Planning a Unified Solution
Owner	Atos Worldline
Classification	Necessary
Material Safety Implication	CORPUS has no material safety use.

Overview

- 5.3.1 CORPUS is a web based system managed by Network Rail that provides the means to link together the codes used in different UK rail industry systems to describe the same location and therefore maintain a National set of Location Codes.
- 5.3.2 Changes to the codes are interfaced to the train planning, train management and retail systems used in the UK rail industry. It also provides updates to the European database (ENEE).

5.4 CCOS Sectional Appendix – (Online via National Electronic Sectional Appendix)

Description	CCOS Sectional Appendix – Online (is a separate module within the National Electronic Sectional Appendix)
Owner	RSSB

Classification	Necessary
Material Safety Implication	CCOS Sectional Appendix provides safety critical information required for the safe access to the infrastructure of staff working on the tracks and to the safe movement of trains on the CCOS infrastructure.
<p>Overview</p> <p>5.4.1 The CCOS Sectional Appendix provides a diagrammatical illustration of the Crossrail Central Operating Section that contains information on track layout, line speeds, permanent speed restrictions, signals, marker flags, direction of movement and all other information necessary to inform operations and maintenance staff.</p> <p>5.4.2 The CCOS Sectional Appendix is housed as a module within the National Electronic Sectional Appendix alongside adjoining routes managed by Network Rail.</p> <p>5.4.3 As an online tool, it is possible for CCOS Access Beneficiaries to readily perform searches of CCOS Sectional Appendix.</p>	

5.5 Integrated Train Planning System – (ITPS)

Description	Publication System Interface for Timetable Information
Owner	Network Rail
Classification	Necessary
Material Safety Implication	ITPS has no material safety use.
<p>Overview</p> <p>5.5.1 ITPS is a planning and publication system producing timetable information of planned train service.</p> <p>5.5.2 ITPS provides the National working timetable and public timetable information to the appropriate downstream users that is adopted into the Systems Code and not ITPS itself. These interfaces are for CIF (Common Interface Format) and LATIN (Local Access to Timetable Information).</p> <p>5.5.3 The provision of CIF files to different downstream systems that require timetable information. This includes route signalling systems, Customer Information Boards, Commercial/Retail systems and on-board Passenger Information Systems.</p>	

5.5.4 NR will operate ITPS on behalf of RfL(I) through a contractual arrangement to be finalised.

5.6 SAFE

Description	CCOS Route Control Centre Incident Log
Owner	Saab
Classification	Expedient
Material Safety Implication	Safe provides a useful input to safety investigations.
<p>Overview</p> <p>5.6.1 This is a control centre incident logging tool. It provides a common logging system that may be used to record information pertaining to events and incidents affecting CCOS.</p> <p>5.6.2 An incident or event is recorded once but is added to by the stakeholders. All decisions affecting operational safety made within should be recorded.</p> <p>5.6.3 A log for the Route Control Centre or train operating company may be produced as required.</p> <p>5.6.4 SAFE is also in use in TfL in the London Underground (LUCC) and surface transport (CentreComm) control centres and provides a common platform,</p>	

5.7 Common Interface Format (CIF) File

Description	Common Interface Format
Owner	Network Rail
Classification	Necessary
Material Safety Implication	The CIF file has no material safety use.

Overview

- 5.7.1 The CIF file facilitates the distribution of train schedule details for all the trains in ITPS for a limited period ahead or time window. This data, provided in a standard format, is updated nightly, and forwarded to receiving systems industry-wide that require in an appropriate customised format to receiving systems and which require updated information.
- 5.7.2 CIF is used within CCOS to provide train schedule and routing data to the signalling system and customer information systems.

6. Contact Details

6.1 RfL(I) Contacts

Network Performance and Strategy Manager
Rail for London (Infrastructure) Limited
25 Canada Square
London
E14 5LQ