

# Allocation and Marking of Permanent Numbers on Rolling Stock

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## Foreword

The foreword shall contain:

- **The background** *This document was drafted on behalf of the Rail Working Group (RWG)\* to define how rolling stock should be permanently marked for the purposes of the securitisation of interests.*
- **Contributors** to the document: *This document was prepared by Chris Dugdale of Europe Rail Consultancy and Howard Rosen of Howard Rosen Solicitors, on behalf of the RWG in August 2008. This edition reflects comments made in the course of 2009 and was prepared as an input for the Preparatory Commission's draft Request for Proposals. The document was reviewed by the URVIS Working Group composed of representatives from associations of railway undertakings and manufacturers with the participation of the European Railway Agency.*
- **The possible way forward:** *In due course, it is intended to submit this document to international standards organisations for adoption.*

\* [www.railworkinggroup.org](http://www.railworkinggroup.org)

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## Introduction and URVIS

The Luxembourg Rail Protocol to the 2001 Cape Town Convention on International Interests in Mobile Equipment, applying the Convention to railway rolling stock was adopted in February 2007. It provides a legal framework for financiers (principally lenders and lessors) of railway rolling stock taking security on financed equipment. It stipulates a priority and registration system as well as an internationally agreed mechanism to define and enforce rights in the event of a default by, or financial instability of, the debtor. The Protocol applies to all rolling stock (from high speed trains to trams). The registry will be accessible 24/7 through the Internet to allow financiers to register their interests and to facilitate prospective creditors checking any rival claims to the equipment being financed.

By reducing risk for rail equipment financiers, it will

- attract more private sector lenders into the market resulting in cheaper finance for non state-guaranteed operators and create choice for operators in relation to costs and types of financing

- facilitate lending to customers where hitherto the lack of a legal infrastructure has prevented banks lending

- encourage capital investment which will in turn promote the expansion of rolling stock manufacturing facilities

- facilitate short term operating leases of rolling stock, not just into railway operators from financiers but also between operators, ensuring more efficient use of rolling stock

thereby lowering barriers to entry into the industry for private sector operators, making existing operators more efficient and competitive and reduce the dependency of state and private operators on state funding, in turn leading to a more dynamic industry. Governments may then focus limited resources on financing of infrastructure rather than rolling stock.

The Luxembourg Protocol thus requires a procedure to identify rolling stock unambiguously in accordance with an international agreed system. A system to mark the railway rolling stock is implicit. This procedure must apply in every state party to the Luxembourg Protocol. The system to identify vehicles has been given the name the Unique Rail Vehicle Identification System – URVIS.

These permanent (URVIS) numbers are to be differentiated from operating numbers which may change as a function of ownership, type of use, state of use, constructional characteristics, or in other ways. The URVIS identity therefore provides an identity trail right through the life of an item of railway rolling stock.

It is essential that the URVIS number can be clearly distinguished from the running or operating number and that the marking of the permanent number follows the principles of this document.

## 1 Scope

All railway rolling stock shall be subject to this recommendation except that rolling stock used or to be used solely for personal purposes, used on heritage railways or used on railways with a gauge of less than 500mm shall not be subject to this recommendation but may comply with it on a voluntary basis. Rolling stock which is initially out-of-scope but which is rebuilt to be in-scope shall be marked in accordance with this recommendation.

Responsibility for maintaining and updating this standard shall fall to the Rail Working Group, as a representative of various stakeholders in the rail sector, which shall take note of comments made by rolling stock manufacturers and operators as well as contracting states to the Luxembourg Protocol.

## 2 Normative references

There are no existing standards which impinge on this issue.

## 3 Definitions

Cape Town Convention: The convention on International Interests in Mobile Equipment signed in Cape Town on 16 November 2001.

Luxembourg Protocol: the Luxembourg Protocol to the Cape Town Convention on matters specific to railway rolling stock signed in Luxembourg on 23 February 2007.

Railway rolling stock: vehicles movable on a fixed railway track or directly on, above or below a guideway, together with traction systems, engines, brakes, axles, bogies, pantographs, accessories and other components, equipment and parts, in each case installed on or incorporated in the vehicles, and together with all data, manuals and records relating thereto.

Registrar: the party for the time being appointed as registrar pursuant to the provisions of Article 17(2)(b) of the Cape Town Convention to maintain the international registry pursuant to the Luxembourg Protocol.

URVIS: Unique Rail Vehicle Identification System.

Vehicle: an item of railway rolling stock.

## 4 Basic principles

### 4.1 Principle

The Unique Rail Vehicle Identification System is intended to identify railway rolling stock unambiguously and to provide an identity trail even though the railway rolling stock be sold, used in another state or extensively modified.

### 4.2 Responsibilities

Manufacturers shall mark new railway rolling stock in a permanent manner on construction. The permanent marking shall bear the abbreviation "URVIS" and the code number (see section 6) and have the following characteristics. The abbreviation "URVIS" may be supplemented by a translation in appropriate language(s). Manufacturers shall not recycle allocated markings, even if the railway rolling stock originally marked with such markings is taken out of service or destroyed.

Owners of security interests and users may cause existing railway rolling stock to be marked in a permanent manner. The permanent marking shall bear the abbreviation "URVIS" and the code number (see section 6) and have the following characteristics. The abbreviation "URVIS" may be supplemented by a translation in appropriate language(s). Owners, lessors, secured parties, custodians and users of railway rolling stock may not recycle allocated markings, even if the railway rolling stock originally marked with such markings is taken out of service or destroyed.

Users of railway rolling stock shall not remove, obliterate, alter or otherwise make the identity marking unfit for its purpose. Changing the position or renewal of the identity marking in accordance with the criteria for marking is permitted.

Owners, lessors and financiers of railway rolling stock shall put clauses into leases and other financing agreements for the use of railway rolling stock to require users to respect identity markings.

## **5 Definition of a vehicle**

### **5.1 Principle**

It is essential that what constitutes the essential characteristics of a vehicle is clearly defined so that appropriate decisions can be taken in the event of major modifications.

### **5.2 Criterion of integrity of a vehicle**

Modification of railway rolling stock requiring a new technical approval shall not change the identity of the railway rolling stock provided that the underframe is retained. Modification which involves a new underframe or involves the underframes of two items of railway rolling stock being permanently and physically linked shall be deemed a new vehicle and require a new identity.

Multiple-underframe vehicles shall be regarded as multiple vehicles. This will require cross reference files to accommodate a one operating number to many URVIS identity numbers relationship.

## **6 Structure of the identity numbers**

### **6.1 Principle**

Identity numbers shall be composed of nineteen digits wholly numeric. Zeroes shall be permitted in any position. An automatically generated check digit shall form the twentieth digit.

Leading zeroes shall be inserted where appropriate. Short gaps shall be left after the seventh and fourteenth digits to aid clarity.

### **6.2 Structure**

URVIS numbers shall be made available, on request, by the Registrar to manufacturers, owners and other interested parties in accordance with his then current published procedures. The Registrar may permit such parties and their agents to verify the allocation of URVIS numbers to them and reserve identity numbers and blocks of identity numbers on such terms as he shall decide. Once allocated by the Registrar to a specific party, URVIS numbers will not be allocated to other parties.

When reserving identity numbers, registering parties and their agents are free to take numbers which contain a structured series of digits within the identity number (for example, to reflect the type of equipment or manufacturer's works numbers) but are not obliged to do so.

The check-character is to be derived from the Luhn mod N algorithm.

## **7 Criteria for marking the vehicles**

### **7.1 Principle**

The permanent marking shall bear the abbreviation "URVIS" and the identity number (see section 6). The abbreviation "URVIS" may be supplemented by a translation in appropriate language(s).

### **7.2 Legibility**

Characters forming the markings shall be in a readily legible typeface and sufficiently large to be read without reading aids. Character sizes of 10 mm shall be deemed to meet this latter requirement. Short gaps shall be left between the fields to aid clarity.

### **7.3 Immutability**

Markings shall not perish or deteriorate to the point they become illegible within the planned working life of the railway rolling stock.

Markings shall be resistant to amendment

Markings shall be such that any amendment is evident

### **7.4 Resistance**

Markings shall be permanent taking into account state-of-the-art practice at the time the marking is made. Stamping or engraving the underframe or welding a cast, stamped or engraved plate to the underframe shall be deemed to meet this requirement. Markings shall remain effective under normal use. Markings shall be resistant to grease, dust and the traffic which the item of railway rolling stock is designed to carry.

Markings shall not be affected by deterioration in the railway rolling stock's protective coating or by deterioration of the item of railway rolling stock itself.

### **7.5 Position**

Markings shall be placed on both sides of the item of railway rolling stock if possible but in two positions which are as symmetrically opposite as is possible.

Markings shall be placed such that they do not need artificial light to be read in normal daylight.

Markings shall be legible from ground level without the need to take any part off the vehicle

Markings shall as far as possible be mounted on a vertical surface and on the sides rather than the ends of the item of railway rolling stock.

Markings shall as far as possible be mounted on one of the following parts of the railway rolling stock

- the solebar
- the risers to steps to gain access to the item of railway rolling stock
- the bodywork at the end of the sides to the item of railway rolling stock

## **8 Documentation**

### **8.1 Principle**

Security interests will be registered in a database provided by the Registrar. Detailed guidelines for the use of the database will be provided by the Registrar. This document will form part of those guidelines.