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## **RID/ADR/ADN**

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods  
(Bern, 14 – 18 March 2016)

### **Agenda item 5 (b): Proposals for amendments to RID/ADR/ADN – New proposals**

#### **Use of an electronic transport document**

##### **Submitted by Germany**

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#### **Introduction**

1. Taking the previous discussion on the application of telematics in the carriage of dangerous goods into account, Germany has prepared an interpretation regarding 5.4.0.2 of RID/ADR/ADN in order to be able to use electronic transport documents in Germany with legal certainty without having to carry along a printer. The notice regarding this interpretation is set out in the Annex.
2. The considerations on which this approach is based are described in detail at the beginning of the interpretation to illustrate the situation and possible developments to all parties involved.
3. Electronic documents are to be introduced in several stages; the availability in a BackOffice of a synchronized data set containing the information in accordance with 5.4.1 of RID/ADR/ADN is already stipulated in the first stage. Germany considers it an important advantage of this approach that it takes account of the time necessary to find out about the manifold organizational forms of the inspection and rescue authorities.

**Proposal**

4. Germany asks the Joint Meeting to take note of this interpretation and to have a discussion as to whether a similar approach in different states would make it possible to use electronic documents for cross-border operations at short notice and could establish an essential basis for further telematics applications. Germany thus takes up the results of the “Telematics” Working Group that was held in Southampton and provided for a multi-stage approach to the use of telematics applications.
5. Germany offers to discuss this paper in depth at another meeting of the “Telematics” Working Group organized by Germany.

## **Uniform application of electronic data processing (EDP) or electronic data interchange (EDI) techniques as an aid to or instead of paper documentation in accordance with section 5.4.1 of ADR/RID/ADN (electronic transport document for the carriage of dangerous goods)**

Applicable as from 1 January 2016

### **Foreword**

For a few years now, the general provisions of ADR/RID/ADN on documentation in chapter 5.4 have explicitly permitted using, among other things, an electronic transport document<sup>1</sup> as an alternative to the paper version (transport document) commonly used today. As there previously was no uniform determination concerning the requirements in sub-section 5.4.0.2, in Germany, the application of this electronic document is only considered to be compliant with regulations if a printer is carried along during carriage which makes it possible to print out the documentation required by sections 5.4.1, 5.4.2 and 5.4.3 at any location during carriage (see Guidelines for the application of the Ordinance on the Transport of Dangerous Goods by Road, Rail and Inland Waterways (GGVSEB) and other dangerous goods regulations (RSEB), no. 5-11).

Due to the advanced stage of the international discussion on the possibilities of using telematics applications for the carriage of dangerous goods, it has now become possible to adopt uniform interpretation guidelines for transport operations in Germany that make it possible, in the period until concrete requirements concerning the use of telematics are included in ADR/RID/ADN, to use an electronic transport document without carrying along a printer as a further alternative; in this respect, the provision in no. 5-11 of RSEB remains unaffected. At the same time, going beyond the previous regulation concerning the use of a printer carried along, it is now also possible to lay down general requirements concerning the availability of the data during carriage for this alternative. The requirements described below concerning data storage on board vehicles for carriage by road, trains and inland waterway vessels apply accordingly to an electronic technique using a printer.

The system architecture recommended by the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods<sup>2</sup> provides for the data sets containing the information in accordance with section 5.4.1 of ADR/RID/ADN not only being carried on board the vehicle/train/inland waterway vessel during carriage but for identical data sets having to be available on stationary servers within the sphere of influence of the carriers (called Trusted Party 2 (TP2)) also for requests of the inspection authorities and emergency services. For the communication between these stationary servers and governmental authorities, an internet-based interface with a management service<sup>3</sup> (hereinafter Trusted Party 1 (TP1)) is to regulate the exchange of data.

Taking into account this long-term solution aimed for at international level of equipping vehicles/trains/inland waterway vessels with data processing and data exchange systems as well as the needs of the parties involved in the carriage and of the inspection authorities and emergency services, a phased approach to using electronic transport documents is required in Germany. The national implementation is to take place in two steps:

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<sup>1</sup> For the purpose of these interpretation guidelines, an electronic transport document is an electronic documentation of the information required in the transport document in accordance with section 5.4.1 of ADR/RID/ADN.

<sup>2</sup> see INF. 3 and OTIF/RID/RC/2013-B (report of the Joint Meeting from 17 to 27 September 2013)

<sup>3</sup> The term "management service" subsumes central system functionality which is indispensable for the functioning of the telematics system, e. g. the administration of identities and related access rights.

1. For an estimated period of three years, instead of the internet-based international/European TP, bilateral communication (data access for rescue services and inspection authorities by use of the data terminal on board the vehicle/train/inland waterway vessel and, if necessary, communication via an emergency number operated by the carrier or a service provider commissioned by the carrier with direct access to TP2) is to be used for the electronic exchange of the data of the transport document (phase 1).
2. After an estimated three years, the bilateral communication described under no. 1 above is to be replaced by the establishment of one or more German TP1 (government body or entity organized on private enterprise lines) to which requests can be made in the case of inspections and emergencies and which enable the data exchange to be organized in electronic form (phase 2). In the case of several TP1, these must be organized in such a way that each request made to a TP1 allows for obtaining the required data. (The second phase will be fleshed out at a later point in time.)

Particularities of the transport modes will be considered especially in the preliminary solution phases.

### **Specific instructions for phase 1**

#### **1. Requirements concerning data storage and data output on board the vehicles/trains/inland waterway vessels**

- a) The data storage medium used in the data terminal<sup>4</sup> must be suitable for permanently storing all the relevant dangerous goods information in accordance with section 5.4.1 of ADR/RID/ADN for the duration of carriage. For this purpose, non-volatile storage media (currently EEPROM or flash memory) shall be used in all data terminals (e. g. tablets, scanners, smartphones, OBUs). To these storage media, data can be written electrically, and they retain stored information until they are given an electrical erase command. The data storage media installed in the data terminals need to be tested with regard to the properties heat and impact sensitivity, protection against leakage currents and water in accordance with the commonly occurring stresses during carriage.
- b) For carriage by road and rail, a portable data terminal and, for carriage by inland waterway, a portable data terminal or one permanently installed on-board is to be used. Where only one to three different dangerous goods (UN numbers) are carried in tanks or in bulk in vehicles subject to marking requirements in accordance with paragraph 5.3.2.1.2 or 5.3.2.1.4 of ADR, a permanently installed data terminal is permitted also for carriage by road.

The data terminal has to be designed in such a way that no loss of data can occur when the energy supply is interrupted. The energy storage device has to provide energy for the duration of the transport operation or be recharged during carriage by means of equipment on board.

- c) The data must be displayed on a screen that is equivalent to paper both in terms of character size and readability (visual representation without layout requirements (e. g. PDF format) on a screen of at least 10 inches or an optimized and structured representation that makes it possible to display on the respective screen (at least 3.5 inches) all substance-related required data of a dangerous goods entry) in different light conditions. The operation of the reader must be easy and intuitive and give inspectors/the rescue services unrestricted access to all relevant dangerous goods information.
- d) Usually, the responsibility for the operation of the data terminal rests with the vehicle drivers/train drivers/shipmasters. Within the framework of their obligation to provide information, they have to provide the authority responsible for monitoring with the aids required

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<sup>4</sup> It is possible to update the requirements to be met by the data terminals based on experience gained.

for performing the monitoring measures and provide the necessary assistance (Section 9(2) of the Transport of Dangerous Goods Act (GGBefG)). Upon request, they must instruct the inspection staff in the operation of the data terminal or accompany them during the inspection and carry the data terminal along for this inspection. This also applies to emergencies in which they are able to do so. Vehicle drivers/train drivers/shipmasters have to be instructed by the carrier in the operation of the data terminal and they have to be advised in a verifiable manner of their obligation to cooperate in inspections or in the case of incidents or emergencies. For emergencies in road transport (driver not responsive), a readily identifiable and understandable note on how to access the dangerous goods data on the data terminal that are relevant for the emergency services has to be affixed in the driver's cab.

## 2. Requirements concerning data storage on and use of a stationary server

- a) For cases where a failure of the data terminal occurs, identical data sets must be stored in a second stationary data store (TP2). As a general rule, the TP2 has to be accessible via an emergency number 24 hours 365 days a year, or at least from the beginning until the end of the transport operation (this stationary data storage is referred to as BackOffice). It must be accepted that, in the case of a lack of mobile connectivity, the required storage of identical data sets will only take place after mobile connectivity has been restored and data exchange has become possible again. However, the data stored in the data terminal always has to be up-to-date. The emergency number serves as a contact point for all information of the transport document in accordance with section 5.4.1 ADR/RID/ADN; this means that additional information, e.g. on specific properties of the substance, that would not need to be indicated in the transport document does not need to be provided here.
- b) Until one or more TP1 (for the respective or all inland modes of transport) has/have been established in Germany, for carriage by road, the vehicle (motor vehicle or tractor unit) and, if appropriate, the inland waterway vessel must bear a mark which contains an emergency number that ensures data provision during carriage. Data must be provided to the inspection authorities and emergency services without delay. It must be possible to obtain information in the German language via the emergency number, even if non-residents use the electronic transport document in Germany. For carriage by road, the vehicle registration number of the motor vehicle serves as the identifier for the requested information; in the case of transport units with trailers, this is the vehicle registration number of the motor vehicle/tractor unit. For carriage by rail, the wagon number serves as identifier.
- c) When a request is made via the emergency number, the respondent has to verify that the requesting entity is an authorized entity. For this purpose, the federal states and federal authorities that would like to make use of the additional data retrieval from the BackOffice should either provide the Federal Ministry of Transport and Digital Infrastructure (BMVI) (Division G 24: [Ref-G24@bmvi.bund.de](mailto:Ref-G24@bmvi.bund.de)) with the telephone numbers of all authorized entities or at least one entity per federal state/federal authority via which a verification of the requesting entity is possible around the clock. The enterprises that want to participate in phase 1 need to obtain the list containing these telephone numbers and, if appropriate, the entities from the Federal Ministry of Transport and Digital Infrastructure and store it in the BackOffice for use before beginning to use an electronic transport document. At the same time, in order to be able to communicate changes regarding the above entities, the Federal Ministry of Transport and Digital Infrastructure draws up a list of the enterprises that have established a BackOffice and also makes this list available to the specified federal/federal state authorities. If necessary, the enterprises lay down in their security plans in accordance with section 1.10.3 of ADR/RID/ADN the techniques for verifying the requesting entities.
- d) The transmission of data must be possible both in PDF and XML format; the requesting entity can choose the data format. The requesting entity can also request information via telefax.
- e) In the case of an inspection, applications are also permissible where the vehicle driver/train driver/shipmaster additionally generates a file in a transmissible format (PDF or XML) from the

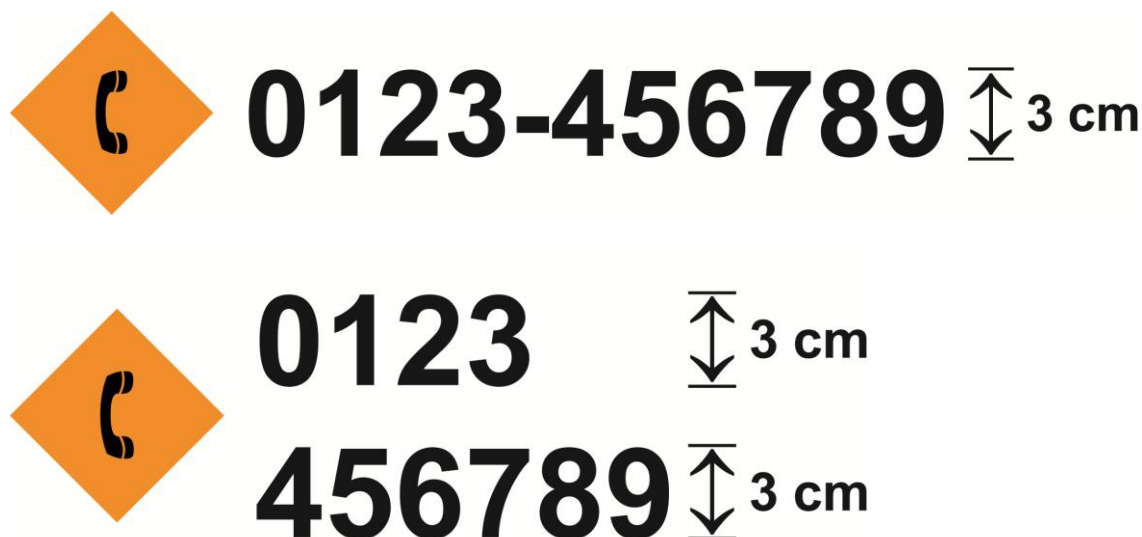
dangerous goods data contained in electronic form in the data terminal (indication or transmission, respectively, of the recipient's data is not necessarily required) and sends this file to the official email address indicated by the inspection staff. This may be done in the presence of the inspection staff. In emergencies or in the case of accidents where the vehicle driver/train driver/shipmaster is fully responsive and/or the data terminal is available, the means of transmission described above can also be used.

- f) The enterprises that use an electronic transport document need to provide, upon request, proof of compliance with these conditions to the authorities responsible for monitoring compliance with dangerous goods legislation in the enterprises.

### 3. Marking of the vehicles for carriage by road if an electronic transport document is used

The front and back of the vehicle must be marked with a note indicating the use of an electronic transport document as well as the individual emergency number. If it is not possible to affix this mark to the back for structural or other obvious reasons, it may be affixed at both entrances to the driver's cab. The mark can be positioned freely within 50 cm of the orange-coloured plates at the front and back. Depending on the type of use of the vehicle, the mark can be detachable (folding or magnetic marks may be used; magnetic marks may only be used if they do not become detached from their mount in the event of 15 minutes' engulfment in fire and if this has been confirmed by the manufacturer) or permanently attached (fixed).

The mark consists of an illustration (pictogram of a telephone receiver on an orange-coloured diamond-shaped symbol) followed by the telephone number in a colour contrasting with the background. The telephone number can be displayed in one or two lines with the digits being at least 3 cm and the pictogram at least 6 cm high. It is also permitted to give a foreign number if information in the German language is provided via that number. If the indicated telephone number does not contain an international country code, it must be a German telephone number.



If for a part of the cargo no electronic transport document is to be used, the mark has to be removed. In this case, a paper transport document is required for the entire cargo.

### 4. Further particularities for individual transport modes

#### Railways

For the rail transport mode, administrative controls of dangerous goods are carried out regularly on consignments in sidetracked trains, groups of wagons and individual wagons; here no staff of the carrier and thus no data terminal is available. Moreover, in such cases there is no information affixed to trains and wagons that would make an unambiguous

identification of the carrier/railway undertaking possible. In these cases, the respective railway infrastructure company, upon request, informs the inspection authorities of the responsible railway undertaking.

The railway undertaking has to provide to the Federal Ministry of Transport and Digital Infrastructure a central telephone number to be passed on to the inspection authorities via which the inspection authorities can, at any point during carriage, by stating the wagon number request the transmission of the data of the transport documents in accordance with 5.4.1 of RID. For the transmission of the data, no. 2 is applicable. Upon request of the railway undertaking, the inspection authority staff requesting the information have to prove their identity. For this purpose, a verification procedure in accordance with the explanations under no. 2 c) has to be applied and coordinated between the inspection authorities and the railway undertaking.

To ensure that emergency and rescue services have access to these transport document data in the case of an incident, the carrier/railway undertaking, in addition to the data required in accordance with 1.4.3.6 (b) of RID, has to make available a telephone number to the railway infrastructure company via which the control centres of the emergency and rescue services can retrieve the complete transport document data at any time. It is also permissible to allow the emergency and rescue services to electronically access the data of the railway undertaking in accordance with 5.4.1 of RID. The railway infrastructure company must ensure that the emergency and rescue services have knowledge of a contact point to retrieve the information. (For DB AG, this is ensured by means of the reporting channels agreed with the interior ministries of the federal states within the framework of the emergency management of DB AG.)

### **Inland navigation**

On board inland waterway vessels, a transport document can usually be printed out using an available printer. Thus, it is possible to apply the solution described in RSEB if the general requirements concerning the data terminal and data storage are complied with on the inland waterway vessel. If the transport document cannot be printed out on board, it is also possible to use the solution described above consisting of an emergency telephone number and data storage in a Back Office. If appropriate, the emergency telephone number (see no. 3) is to be indicated in a clearly visible way on both sides of the wheelhouse with a character height of at least 5 cm. In this case, it must be possible for the emergency services to obtain the data after providing the vessel's name, the ENI or the accident site. (Within the framework of the discussions on phase 2, it is examined whether the reports to the traffic control centres can be used for a BackOffice solution.)

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