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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods

Bern, 26-30 March 2007

Item 8 of the provisional agenda

ANY OTHER BUSINESS \*/

Tracking and tracing system for dangerous goods vehicles

Transmitted by the European Commission

**SUMMARY**

**Executive summary:** The objective of the annexed discussion paper was to discuss in *the European Commission's Regulatory Committee on the transport of dangerous goods*, on 18 and 19 December 2006, further measures to be taken to develop a European tracking and tracing system for dangerous goods vehicles.

**Action to be taken:** Sent to the Joint Meeting for information and for possible discussion.

**Related documents:** ECE/TRANS/WP.15/AC.1/104, paragraphs 73-75

The Committee's discussion paper is reproduced in the annex hereto, as transmitted by the European Commission.

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\*/ Circulated by the Intergovernmental Organization for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2007/17.

Annex  
(English only)

Discussion paper for the European Commission Regulatory Committee on the Transport of Dangerous Goods, for its meeting of 18-19.12.2006

MITRA project: further measures

**1. Possible objective**

To create a tracing and tracking system for dangerous goods vehicles / containers, which would serve various users.

**2. MITRA project**

**MITRA** (**M**onitoring and **I**ntervention for the **TR**ansportation of Dangerous Goods) was a FP6 project that dealt with tracking and tracing dangerous goods vehicles. The project created an information system, which was used by rescue services, with the aim to speed up the emergency measures and to be prepared to do them in the right way in accident cases.

The project was presented to the Committee in the meeting of 20 June 2005.

The project consortium demonstrated in Germany, France and Spain, how the system and rescue services could operate in simulated accident cases.

The information system used the satellite system GPS for locating and GSM for communication. The vehicles were provided with a communication terminal and a sensor that could recognise some exceptional conditions of the load/vehicle (temperature, pressure, leak, shock, "alarm button" of the driver). The vehicle terminal communicated the location, sensor information and other transport information to a database, to which the control centres of the rescue services had access through Internet. The used communication terminal was a commercial product from the market, not developed for this project only.

The project ended in October 2006, and the Final Dissemination Workshop was organised on 25 October (a presentation attached under this item). Participants were partners of the project, people otherwise linked to the project, some persons from MS involved in dangerous goods transport and the chairman of the ADR/RID/ADN Joint Meeting.

The project had obviously been successful and the demonstrations were real-like. The users of the information system, who were rescue people, not IT professionals, found the user-interface in control centres user-friendly. The project consortium had also studied carefully, what gaps the current locating and communication systems have, when they are used for this kind of operation.

### **3. Tracking and tracing as an issue on other forums**

The tracking and tracing dangerous goods vehicles has recently been an issue on many forums; in the following list are only some examples:

- (a) Other projects linked to the field are ongoing;
- (b) Projects on electronic transport documents are ongoing;
- (c) ADR/RID/ADN Joint Meeting discussed shortly MITRA in Geneva 09/2006;
- (d) RID AG "Fahrzeugtechnik" discussed rail telematics and MITRA in London 04/2006;
- (e) RID AG "Fahrzeugtechnik" will discuss rail telematics again in Munich 06/2007; DE will prepare a discussion paper on tracking and tracing dangerous goods, which is not limited to rail mode only;
- (f) RID-Fachausschuss discussed rail telematics, MITRA, and a new German tracking and tracing project which aims to integrate various stand-alone projects, in Helsinki 10/2006;
- (g) ERA (European Railway Agency) has prepared a Technical Specification for Interoperability for rail telematics, which contains also tracking and tracing elements; ERA will participate in RID-Fachausschuss and in RID AG "Fahrzeugtechnik" in the future;
- (h) Draft Dangerous Goods Directive for inland transport mentions the development of tracking and tracing systems explicitly.

### **4. Potential users**

There are a lot of parties which could be interested in participation and using of tracking and tracing dangerous goods systems, if they existed. Here are some examples:

- (a) Transport operators, logistics providers, terminal operators;
- (b) Highway and critical infrastructure operators;
- (c) Rescue service.
- (d) Customs, port and security authorities

## 5. Requirements for a tracking and tracing system

Following requirements for the tracking and tracing system of dangerous goods vehicles have been identified on various forums, first of all in the final dissemination workshop of the MITRA project:

- (a) The system should cover all land transport modes;
- (b) It should be decided, whether the system covers all dangerous goods transport or high consequence dangerous goods only;
- (c) It should be decided, whether the tracking and tracing concerns vehicles or containers;
- (d) The system should be EU-wide;
  - Centralised or harmonised de-centralised database should be established and maintained;
  - The interface from monitoring stations to the database should be standardised; preferably also the presentation of data in monitoring stations should be similar;
  - access from monitoring stations to the database should be based on Internet (at least);
  - communication terminals in vehicles should be standardised and certified;
  - communication terminals should be mandatory for dangerous goods vehicles that operate in the EU, at least for those carrying high consequence dangerous goods;
- (e) The system should be applicable for commercial use, so that transport companies and other operators can use it for their private business;
- (f) The system should be applicable for the use of public authorities as well; however, despite the EU-wide standardisation of the system and the mandatory use of communication terminals in the EU, it should not be mandatory that authorities in all EU states use the system;
- (g) The system must have protected data domains dedicated to various user groups, like commercial users or authorities;
- (h) In particular, the system should be applicable for the use of security authorities, which sets special requirements for the data protection;

- (i) For geographic positioning, a combination of GPS and GALILEO satellite systems seems desirable, because the availability of GPS or GALILEO positioning alone does not seem satisfactory;
- (j) For communication, some sort of GSM complemented with satellite communication seems necessary, because the availability of GSM alone is not sufficient and GSM is too vulnerable;
- (k) The system should not lead to a proliferation of communication equipment in the vehicles, any piece of them causing additional costs to transport operators. Electronic toll collection systems already use similar communication terminals, and in the future they will obviously be needed for the monitoring of animals transportation. It should be ensured that one communication terminal is applicable to all tracking and tracing systems, which are made mandatory for transport operators.
- (l) It is very recommendable that the transport documents are available in electronic form.
- (m) The system should provide statistical data on the land transport of dangerous goods.

## **6. Ways to go ahead**

Since the system should be multimodal, the requirements for the system should be discussed in the ADR/RID/ADN Joint Meeting, not only in RID-Fachausschuss for instance, so that international inland transport regulations could be adapted accordingly.

Since the system

- contains technical elements that go beyond national limits,
- needs EU-wide standardisation, which ensures the interoperability of necessary equipment,
- requires EU-wide regulation, which renders the use of communication terminals mandatory in dangerous goods vehicles,

it is necessary to prepare these elements in the European Commission.

The Transport of Dangerous Goods' Committee is a suitable forum to discuss the first orientations, the centralised technical elements, the standardisation needs and the necessary EU regulations.

The next steps forward could be for instance the following, which are at least partly alternatives:

- (a) A starting point could be the discussion in the RID AG "Fahrzeugtechnik", in Munich in June 2007, based on the German paper. The discussion could cover at least technical aspects, but also regulatory aspects in terms of ADR/RID/ADN, or even the role of the EU. The result should be passed, perhaps via the RID-Fachausschuss, to the ADR/RID/ADN Joint Meeting and possibly to DG TREN.
- (b) Another starting point could be the discussion of this Committee meeting, which could lead to establishment of an ad hoc working group, for instance, that could start to develop matters related to the role of the EU.
- (c) A third starting point could be the ADR/RID/ADN Joint Meeting in March 2007, which could take the first technical and regulatory orientations in terms of possible future amendments of ADR/RID/ADN. This discussion should be based on some preparatory document from the ADR/RID/ADN Contracting Parties. The discussion could lead to establishment of an ad hoc working group, as in the previous case.

## **7. Possible role for the EU**

On the basis of the reflection above, the EU could have the following tasks to do:

- (a) Possibly conduct a study, under which conditions the establishment and use of the system is feasible.
- (b) Create regulation, which makes the use of communication terminals mandatory for dangerous goods vehicles/containers and ensures the EU-wide interoperability of communication terminals and monitoring stations. The interoperability regulation must be based on the regulation on the interoperability of electronic toll systems (Directive 2004/52).
- (c) Draw up a standardisation mandate for CEN/ETSI on the interoperability standards for communication terminals and monitoring stations, which complete the standards based on Directive 2004/52.
- (d) Ensure that the same standards apply also to the communication terminals, which are necessary in other regulated areas, like transport of animals.
- (e) Conduct a project for the system design, including data protection.
- (f) Establish and maintain the database, if it is not de-centralised.

The Committee is invited to discuss the subject and the further steps to be taken, in particular those addressed to the EU.

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