The meeting of the Working Group on Tank and Vehicle Technology

Presentation on

Derailment Detection and Dangerous Goods Telematics

Munich, 15 June 2007
1. Interfaces between RID and EU legislation/ERA tasks
2. Derailment detection
3. Dangerous goods telematics
1. Interfaces between RID and EU legislation/ERA tasks
1 – Interfaces between RID and ERA tasks

RID Directive 96/49

- Telematic information
- Construction of packaging / wagons
- Operating rules, marking, numbering, loading, staff req. etc

Interoperability Directive 2001/16

- TSI-TAF
- TSI-WAG
- TSI-OPE
1 – Interfaces between RID and ERA tasks

**RID Directive 96/49**
- Safety certification of RUs, incl. SMS
- Notification of RID
- Investigation of accidents, incidents and safety indicators
- Training of staff

**Safety Directive 2004/49**
- CSTs and CSMs
- SafeCert and sms
- National Safety rules
- Req. for investigation and CSIs
- Safety target and methods

**Key Points**
- **SafeCert** and **SMS**
- Request for investigation and **CSIs**
- Investigation of accidents, incidents and safety indicators
- Notification of RID
- Training of staff
2. Derailment detection
ERA will monitor the need to reduce the level of risk for hazardous events e.g. derailments:

- This might be the case when statistical analysis indicates that:
  - the risk level for the whole railway system is too high in comparison with defined targets or other transport modes
  - derailments strongly influence the level of risk for the whole railway system
  - there might be a general negative trend on derailments over the years
3 – Dangerous goods telematics

Number of significant accidents divided by type in the EU 25 - Eurostat data: years 2004-2005

- Accidents to person caused by RS in motion, 3644, 24%
- Accident involving LC, 2917, 19%
- Fires in RS, 271, 2%
- Unknown, 0, 0%
- Collisions, 1294, 9%
- Derailments, 1202, 8%
- Others, 5853, 38%
Fatalities by type of accident in the EU 25

Eurostat data: years 2004-2005

- Unknown, 0, 0%
- Others, 64, 2%
- Collisions, 61, 2%
- Derailments, 8, 0%
- Fires in RS, 1, 0%
- Accident involving LC, 842, 29%
- Accidents to person caused by RS in motion, 1976, 67%
### Dangerous goods telematics

#### Number of accidents

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**Working Group on Tank and Vehicle Technology**

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If there is a need to reduce the risk of derailments, ERA would examine:

- The causes / hazards for derailments, including:
  - Construction, maintenance and inspection of rolling stock and infrastructure
  - Operating rules
  - Requirements for staff training and maintenance of competence
  - The safety management systems of the organisations
  - The regulatory systems:
    - requirements for authorities to monitor or assess the adherence to the rules
    - investigation of accidents/incidents
ERA would also examine the equipment that monitor if there is a derailment or if a derailment is likely to occur:

- Hot axle box or derailment detection equipment on-board the rolling stock
- Hot axle box or derailment detection equipment placed at regular intervals along the trackside

Risk assessments and economic evaluations would be carried out to identify the optimal solution(s)
Currently ERA has no basis to initiate work to reduce the level of risk of derailment.

If the answers to these questions show the need to reduce risk:

1. Is there any analysis of the need to reduce the risk of derailment involving the transport of dangerous goods, incl. comparison of the different transport modes?

2. Would improvements in RID reduce the consequences in the event of a derailment?

3. Is there documentation that calls for a reduction in the level of risk in the railway system - by how much?

Then, ERA will examine the most efficient and economic way to implement appropriate changes as part of the work on the TSIs.
3. Dangerous goods telematics

- Strategic European Deployment Plan (SEDP) is under discussion.
- The dangerous goods wagons can be tracked and traced to some extent by the system described in TSI TAF.
- Revision of the TSI-TAF is not planned at present, but may be necessary in the future.
- ERA suggests the WG examine if the current TSI TAF provides a solution for tracing and tracking.
- Proposals for changes to the TSI TAF should be sent to ERA for appraisal to include in any future revision of the TSI TAF.
Thank you for your attention!