

OTIF



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INTERGOVERNMENTAL ORGANISATION FOR INTER-
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Subject: Generic Guideline for the Calculation of Risk inherent in the carriage of dangerous goods by rail

Corrections proposed by France and the Netherlands

At its 3rd meeting on 3 and 4 May 2005 in Bonn, the Working Group on standardized risk analysis agreed a draft "Generic Guideline for the Calculation of Risk inherent in the Carriage of Dangerous Goods by Rail" (see document OCTI/RID/CE/42/7a). The participants of the Working Group were given the opportunity of offering comments within six weeks of the revised draft being sent out, before it was submitted to the RID Committee of Experts (see report A 81-03/504.2005, paragraph 17). As the Working Group has not held another meeting where these comments could have been discussed, they are summarised in this document.

2.1 Definition of technical terms

Risk assessment

France proposes that the definition be worded as follows:

"Risk assessment: procedure for comparing risk assessment with one or more decision criteria."

For reasons of cost, only a limited number of copies of this document have been made. Delegates are asked to bring their own copies of documents to meetings. The Central Office only has a small number of copies available.

Risk criteria

France proposes to add the following at the end of the definition:

"; the risk criteria are part of the decision criteria".

France proposes to insert the following new definitions after the definition of risk criteria:

"Decision criteria: criteria covering a wider area than the risk criteria (for people and the environment) and allowing social, economic and/or political considerations to be taken into account in the decision.

Decision: selection procedure for measures to deal with risk on the basis of the risk assessment."

Risk management

France proposes that the definition be worded as follows:

"Risk management: execution of agreed measures to modify the risk."

Tolerable risk

France proposes that the definition be worded as follows:

"Tolerable risk: risk which is accepted at the decision phase on the basis of the decision criteria and which, in a given context, **in particular embraces** the justifiable ideals of society."

Figure 1

France proposes to insert a box with the description "decision" in front of the "risk management" box.

In the text after Figure 1, France proposes to replace "risk criteria" with:

"risk and decision criteria".

Stakeholder

France proposes that the definition be worded as follows:

"Stakeholder: an individual, group or organisation that can produce a risk **or that can be affected by this risk, in particular: the decision maker, the person who requests the risk assessment (ordering party), the risk assessor.**"

2.2 Basic requirements

Quantification of risk

In this paragraph, France proposes the following amendments:

- Amend the end of point 1 to read:
", ... stand still principle (GAME?) or risk or decision criteria)."

- Amend point 2 b) to read:

"b) **a quantitative comparison of the risks inherent in the alternative routes** in other cases."

Separation of risk assessment processes

France proposes that the third sentence be worded as follows:

"This "scientific" part is followed by an evaluation of the risk level **assessed** on the basis of **decision** criteria, which also take account of political and social aspects."

Uncertainty analysis

France proposes that the third sentence be worded as follows:

"Uncertainty levels are of minor importance in cases of an analysed (estimated) risk being far below the level of tolerable risk, **provided they remain low in comparison with the margin of acceptability.**"

France proposes to add at the end, after "uncertainty levels":

"that have been established".

France proposes to add the following new paragraph after the paragraph on "uncertainty analysis":

"Risk comparison: in comparing the risks posed by two alternative routes on the basis of an assessment tool, the degree of uncertainty of the tool assumes less significance. What is more important in this case is to be able to discover whether there is a significant advantage in using one or other of the routes, rather than to determine an absolute value of the level of risk. In this case, the risk assessment tool may contain only those elements of assessment whose uncertainty is low and which are relevant to estimate the risks of the routes concerned. The other risk assessment parameters, notably those where there is too much uncertainty, may then be taken into account in the decision criteria that are not estimated by the tool, which participates in the risk management decision that has to be taken."

3.2 Scenario definition

- At the end of the first paragraph in the bibliographical references, add:

", [14]".

- Amend the first sentence of the fourth paragraph to read:

"The structure which is most helpful for the classification of accident scenarios and also for the risk calculation itself is the concept of an event tree **established on the basis of a causes tree specifying the frequency of primary incidents in a system dimension that includes the elements rolling stock, infrastructure, organisation and operating procedures.**"

Railway infrastructure

France proposes to insert the following in the first indent after "station":

"single-track line,".

Primary incident

France proposes the following amendments to this paragraph:

- Amend the fifth indent to read:

"Fire (**similarly to an explosion or toxic release, a fire is also to be considered as a subsequent potential effect of other primary incidents**)".

- Amend the last indent to read:

" 'Runaway' scenario in mountainous regions (**may also be considered as a cause of derailment or collision**)."

Release scenario

France proposes to insert the following two sentences after "(see also section 3.4)":

"Since, in practice, it is not conceivable to foresee all the cases of release of substances for each specific accident situation, representative and agreed scenarios (overarching definition and release condition statistics) can be put in place. In this case, the scenarios thus defined are then taken into consideration as test scenarios, enabling consequences to be estimated in a simplified and possibly standardised way between States."

3.3 Statistical data

France proposes the following amendments to this section:

- In the first sentence, amend "accident scenario branches" to read:

"branches of the fault tree".

- Amend the third paragraph to read:

"The applicability of these statistics **to** the respective dangerous goods transport scenario has to be checked **and the hypotheses decided on for using them must be justified.**"

- In the fifth paragraph, replace "or numerical" with:

", numerical or statistical".

3.4 Accident effect models

France proposes the following amendments to this section:

- Under "Relevant information includes": insert the following new indent after the first indent:

"Density of users of the railway line or of neighbouring lines or infrastructure (depending on the time),".

- Under "Relevant scenarios of impact on people and the environment are", insert the following two indents at the beginning:

"– Explosion of solids,

– Explosion of gases (UVCE – unconfined vapour cloud explosion);"

- In the seventh paragraph ("The degree of simplification inherent in ... (see section 4)", replace "reliability" with:

"validity" and replace "risk analysis" with:

"risk estimation".

- Under point 4 of the eighth paragraph, replace "because of" with:

"linked to".

- Amend the last two sentences of the last paragraph to read:

"For example, a systematic use of pessimistic assumptions is counterproductive for a risk analysis, **especially if this is carried out in order to establish an absolute level of risk to be compared with a fixed threshold. In the case of the comparative approach (using a particular tool) this is less important, as more emphasis will be given to the difference (gain) between one route and another. In all cases,** consideration and discussion of uncertainty levels is part of the risk evaluation process."

3.5 Risk estimation

France proposes to add the following at the end of the second paragraph:

"In this case, the risk of a route in relation to a reference length provides no additional information that can be used."

4. Risk evaluation

The Netherlands propose to insert the following sentence at the end of the penultimate paragraph:

"However, after the qualitative risk comparison of two or more open track sections, the definitive selection of the preferable one may need additional evaluation of local and transport-related implications."

(Justification: Even in a dense railway network, the availability of two suitable routes from A to B is seldom straightforward. The "alternative" route may be judged as better, but in practice it often has its own local risk problems and/or transport drawbacks. For example, an available marshalling yard may be a bottleneck.)

In the last paragraph, France proposes to insert the following before "acceptance":

"the understanding and".

5. Dealing with risk

France proposes the following amendments in this section:

- Amend the title to read:

"Risk assessment and management".

- In the first paragraph, insert after the first sentence:

"This assessment takes place at the level of the assessor and independently of the risk estimation phase."

- In the first paragraph, amend the last sentence to read:

"Nevertheless, the documentation should also contain information about the selection of measures **and particularly about the definition of decision criteria outside the risk estimation itself.**"

- Amend the second paragraph to read:

"It is straightforward **on the one hand** to use the same methods and models for the comparison of the effectiveness of different potential measures as were used for the **initial** risk estimation. **On the other hand, the effectiveness of measures must be assessed subject to the risk criteria, such as the potential for risk reduction and the reduction of exogenous decision criteria such as costs incurred by the representatives of interest groups, acceptance by the stakeholders and of course the applicability of the decisions taken. The chances of broad acceptance of the measures increase with good, justified communication of them to the participants.**"

6. Bibliographical references

France proposes to insert the following bibliographical reference at the end:

"[14] A new QRA model for rail transportation of hazardous goods. 11th International Symposium Loss Prevention 2004, Proceeding p 4283-4289, Praha Congress Centre, June 2004."
