

RAILTOX

Objet : Analysis of the Commission comments about the RAILTOX Project and proposal of new orientations of our project

Analysis of the comments

About the quotation, the level has been considered as good, sufficiently to be eligible. The principal problem is the finance of the Commission which is not sufficient.

But the experts have proposed the other following principal comments

a. Scientifique

- lack of some information on railway fire statistics on damages and fatalities
- 10 months seems to be a short time for testing all the products used in railway transportation.
- The modelling tools are classical computer simulations in fluid mechanics

b. Quality of the management

- not all the major railway actors are present
- the project strongly relies on CEN to be able to create a EN standard. Then a strong communication should be achieved with the related WGs in CEN.II

c. Impact of the project

- figures about injuries and fatalities during fire railway transports are not given, so that it is difficult to really predict the effectiveness of the project.
- Dissemination is based on one publication per year and per field of investigation, but it is not stated whether these publications are public or confidential.

d. Any other remarks

- Improvement of dissemination by a strong communication with the appropriate CEN and UIC committees, the authorities, the major railway manufacturers and suppliers and the UNIFE

2. Proposal of reorientation of our project

There are two options

- a. Option 1: the same RAILTOX project with improvements to take into account the Commission comments

The advantage are

- the modifications will not be very important and it will be easy to the send the new proposal at the time.
- The time and the cost shall be low

The disadvantage are

- the principal part of our project is the development of a new test method of continuously toxic gas analysis. This subject is not very innovative about scientific considerations
- The Commission want to transform the TS 45545 in EN at the end 2009. It will be impossible to finish the study before this date.
- It is impossible to show the impact of our study on the improvement of the fire safety because the actual level of fire safety for the train is good in Europe.

b. Option 2 : the development of Fire Safety Engineering methodology for surface transportation (railway, vessels, cars etc. ;) become the principal part of the project and the development of a new test method of continuously toxic gas analysis become secondary

- Scope: surface transport (train, car, vessel)
- Why this new programme

This methodology could be used as an alternative way to the prescriptive approach of the EN 45545 in order to prove the conformity to the essential requirements of the TSI

With this methodology it will be possible to develop new light products like composites which permit to decrease the energy consumption and to respect better the environment (less CO₂).

This methodology will be about the passive fire safety (fire growth and its impact on the safety of the passengers, the staff and the circulation of the rollingstock, the freight) .

It will include

- the reaction to fire of the products (ignitability, spread of flame, heat release, smoke and toxic gas),
- the fire resistance, in order to respect the functional requirement of the train for its circulation.

In order to use all input data for the evaluation of the toxic effect of the combustion gas on the people, a continuously toxic gas measurement test method will developed.

This study will be used also to determine the criteria of the toxic effect on the people for the train, vessels and cars and will permit to harmonize this measurement for the surface transportation in Europe..

- Deliverable :
 - new simulation tools of the toxic effects on the people

- An harmonized fire Safety Engineering European methodology for train which could be used as an alternative way to the prescriptive approach of the EN 45545 in order to prove the conformity to the essential requirements of the TSI.
 - A draft of harmonized European standard for the car, vessels and railway which describes a continuously toxic gas measurement test method.
 - Harmonized criteria of the toxic effect on the people for the train, vessels and cars
- Impact
 - Development of the design and new products (light composites) which permit to decrease the energy consumption and respect better the environment (less CO₂).
 - Better control of the circulation of passenger trains or freight during a fire
 - Innovation :
 - Development of a new test method which don't exist
 - Development of a new methodology of fire safety engineering and new simulation tools.
 - Advantages
 - This study don't depend of the time schedule of the EN 45545 standardization. But may be it will be possible to finish the development of the toxic gas analysis test method before the EN 45545 will be standardized if the study start at the end of 2008.
 - The subject is more innovative about scientific considerations
 - The scope is larger (not only the train)
 - It is possible to show the impact of this study on the environment which is one of the impact which is considered in the following area.
 - Disadvantages
 - A very important work to prepare this new project
 - The important cost (6M€) and the time (between 3 and 4 year)
 - New title

Fire Safety Engineering Surface Transport (FISEST)

3. AREA and Topics which have to be considered for the new proposal

a. AREA: 7.2.4.1 Integrated safety and security for surface transport systems

The objective is to develop new technologies and innovative solutions for the improvement of safety and security in transport operations and the protection of vulnerable users. Activities will address the entire range of approaches and technologies to ensure safer operations based on design for safety, advanced protection systems, intelligent

vehicles, vessels and infrastructures (including their interactions) and related socio-economic aspects. Research will also address aspects inherent to the transport system which can lead to the achievement of an adequate level of intrinsic security of transport system and operations.

b. IMPACT

Maintenance/increase of the level of safety and security of the transport system, whilst applying innovative technologies contributing to the mitigation of green house effect and the reduction of CO2 emissions.

c. TOPICS: SST.2008.4.1.1 Safety and security by design (level 1, large and medium project)

Technologies and methodologies for the design of transport systems with intrinsic safety and security characteristics which support harmonization and standardization