Vehicles & safety critical components

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How is wheelset maintenance done in EU?

- Year / mileage maintenance programs for wheelset and axle maintenance
- Treatment of the wheelset / axle related to state and maintenance program
- Non Destructive Testing (NDT) procedures
Current maintenance practice

1. Different countries attach very different status to a non-harmonised standard or technical regulation.

2. Many of the standards and technical notes devoted to the engineering and design of various parts contain little or no information about the maintenance and critical limits for these parts.

3. The standards for the maintenance of specific components used in freight wagons are mainly based on the return of experience in maintenance of the different wagon operators or keepers and have evolved differently in different countries.

4. These returns of experience from the different European maintenance systems and rules, which can be regarded as **working systems**, have not been reflected in the standards for new built components.

→ It is essential to establish European wide harmonised acceptable minimum criteria and a homogeneous perspective for the various safety relevant parts
Wheelsets / axles – proposal (1)

A package of 10 measures proposed by actors of the sector

1. Axle load according to the design load
   • The axle load for wheelsets of certain axles UIC type A (according UIC leaflet 510-1) will be limited to 20 tons.

2. Surface Roughness of the Axles (EN 13261 / 13103)
   • Surface treatment of open shaft surfaces resulting in a roughness of Ra 6.3 µm (max.) after blasting enables anti corrosive coatings to adhere more effectively.
   • This return of experience has to be matched as soon as possible with the manufacturers and the standards for new built axles to investigate how far this can be permissible in the future for new built material
Wheelsets / axles – proposal (2)

3. Ad hoc measures for maintenance of wheelset shafts for freight wagons

- Shaft corrosion occurs in most freight wagon wheelset shafts in Europe, and it is often consciously tolerated.
- There exist even maintenance (and under certain conditions also new build) rules that do not require any anti-corrosion protection.
- In case different treatment of axle surface is in operation, the proof of feasibility shall be taken into account in the criteria harmonisation work.

Therefore, actors of the sector agree on transitional measures until the existence of harmonised European minimum criteria for axles.
4. Wheelsets in “Corrosive Traffics”
   • For axles in wagons that are operated in traffics under corrosive conditions (example: salt transport), periodicity of non destructive test performed will be more restrictive than the periodicity on a wheelset that are operated under normal conditions.

5. Standardisation
   • CEN should finalise the preliminary standards for wheelset maintenance including minimum maintenance criteria, non destructive testing etc. (prEN 15313), along with the concomitant transitional rules.
   • European wide accepted and unified minimum acceptable maintenance criteria for wheelsets/axles are favourised
   • The further development and completion of the UIC/UIP project on “permissible axle defects and surface characteristics” shall be accelerated (it will serve as an input for the above mentioned standards)
Wheelsets / axles – proposal (4)

6. Improved handling and logistics of wheelsets
   • The measures already in force for the proper handling, logistics, storage etc. of the wheelsets in maintenance workshops and during transport (protecting them against damage) will be revised and retained with appropriate immediate prescriptions and their regular survey.

7. COTIF countries
   • The Non-EU-OTIF member states shall be informed about the above requirements. Implementation is essential as wagons are used for freight traffic from, to and in these countries.

8. Mandatory implementation of CECM and CMW for freight wagons
   • The Certification of the Entity in Charge of Maintenance (CECM) and the Certification of Maintenance Workshops (CMW) are considered as key tools for ascertaining the transfer and retention of the measures mentioned above.
   → The accelerated mandatory European implementation of these regulations is strongly demanded.
Wheelsets / axles – proposal (5)

9. European Research Work on wheelsets and axles
   • the UIC project on defects/surface criteria shall be supported strongly and terminated as soon as possible. Furthermore, an appropriate research program shall be defined by sector experts and funded by the European research program in coordination with ERRAC.

10. European Accessibility to Accidents Information
   • An improvement of the existing procedures of notification and an ERA information system is required, including the identified causes and consequences of accidents – to be publicly accessible.
   • The management of this information and an appropriate platform within the sector for the definition and implementation of potential counter-measures have to be defined
Summary/Proposals for further improvement

- **Transitional period**
  - Light maintenance: visual checks of axles to detect mechanical defects
  - Heavy maintenance: wheelsets with the defects according to the UIC Class 4 to be withdrawn from service

- **Short term measures – TASK FORCE!**
  - European criteria for minimum acceptable status of wheelsets during operations have to be elaborated until end 2009.
  - Preliminary package of other harmonised criteria to be provided by March 2010.
  - This work shall be in accordance with the ERA’s recommendations on CECM and CMW and on the basis of risk-based approach

- **Supporting mid term measures**
  - Member States to be encouraged to co-sign the Memorandum of Understanding establishing the basic principles of a common system of certification of entities in charge of maintenance (CECM) for freight wagons; dated 14 May 2009.
  - Processes to reach mandatory certification of ECMs and CMWs shall be accelerated
Financial impact of measures proposed

- The 10 point measure package (wheelsets/axles) will lead to an additional financial burden for wagon owners/keepers and railway undertakings. It must be therefore noted that
  - Actors of the sector are willing to bear a proportional financial burden for the proposed measures.
  - However in return it is expected that the NSAs will guarantee a system in which every player in the split up liberalized railway freight traffic can rely on the obliged safety contribution from the other players.

In any case CER opposes to safety costs that result to a modal shift to the road freight with its lower safety level in transportation.
Conclusion

- Actors of the sector are in favour of promoting railways as the safest land transport mode whilst applying overall measure package further lowering risks of extremely rare fatal accidents.
- European criteria for minimum acceptable status of wheelsets during operations have to be elaborated until end 2009.
- There is an agreement on further harmonisation of minimum criteria for the maintenance of safety relevant components.
- Actors of the sector are committed to support the Task Force and to co-chair it in order to guarantee optimal outcomes.
- CER calls to include the OTIF Member States in the process.

The Joint Resolution of CER CEOs on Rail Safety invites the European Commission and the European Railway Agency to apply a consolidated harmonised approach to the current concerns.
Thank you!