Proposal for installing a survey group on « Non Destructive Testing on Running Gears »

Today situation

1/3

For many years, Non Destructive Testings (NDT) are used on European networks for two purposes:

- To define and assess the quality of products delivered by producers.
- To survey in service the state of running gears through maintenance processes in order to guarantee the safety of operations.

Today situation

2/3

For new products, it exists specifications for these NDT in ENs, mainly for wheels and axles.

They come from national standards and UIC leaflets.

They also deal with the requirements necessary to make in service NDT possible.

They use, when they exist, ISO standards for the NDT general specifications, and they define specific defect criteria's for railway purposes

Today situation

3/3

For maintenance, it does not exist today any European documents in order to harmonize techniques, nature and size of acceptable defects, periodicity of examination.

Some requirements have been written in the 2 maintenance ENs which exist today (wheelset and bogie) in order to have guarantees about the NDT operators by reference to EN 473

The needs

1/2

Until the latest years, the safe use of running gears was covered by the railway undertakers.

The apparition of many new actors, from the definition of the RST to the assessment of the good use of the RST, has put in evidence the lack of common accepted documents in the field of maintenance in order to keep the level of safety where it was and to give to everybody confidence in what is done.

This is the case for the NDT which remain one of the most important maintenance techniques on which the safety of running gears relies on.

The needs

2/2

Maintenance is made by actors which have now to demonstrate their competencies, and which have, for freight wagons, to go through ECCM: European documents will help for the harmonization of the level of the actors.

It appears more and more innovations in the field of running gears, their save experimentations need to share through European documents, NDT techniques and criteria's in order to allow their interoperability and give confidence to the NSAs in charge of the acceptation of their putting into service.

Proposals to investigate the scope of useful ENs

1/4

- The needs expressed for NDT are specific to the railway components and their railway operation.
- The good technical knowledge of these components and their associated operational risks have to be covered by a railway technical TC (i.e. TC256) more than by a body specific to NDT (i.e.TC 138).
- To establish the scope of the standards which would be developed, the Survey Group would be created with experts of running gears, experts of the definition of maintenance plans of the RST and experts of NDT in railways maintenance workshop.

Proposals to investigate the scope of useful ENs

2/4

These standards have to refer to the existing general EN about NDT developed by CEN or ISO about:

- techniques,
- apparatus,
- probes,
- consumables,
- certification of staff

Proposals to investigate the scope of useful ENs

3/4

They have to deal specifically with the following matters:

- Definition or method of definition of the areas to be observed by NDT in service (according to the level of stresses, the risk of surface degradation in service, the possibility of visual examination,…)
- Definition of standardized dimensions of defect to be detected
- Definition of usable techniques, definition of the method of assessment of their sensitivity according to the nature and the location of the defects; definition of methods of calibration,…

Proposals to investigate the scope of useful ENs

4/4

- Method to define the periodicity of examination or to assess that the periodicity is acceptable to cover the risks (linked to sensitivity of the method, crack speed evolution, critical defect,…)
- Standardized documents for the collecting of the NDT results in order to have common tools for the traceability of the life of the components.

These documents have to deal at least with axles, wheels, wheelsets and bogie frames.