

20 June 2007

RAILSAFE

Education, Qualification and Certification

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REPORT OF RAILSAFE EUROPEAN SEMINAR AT TWI ON 25 JANUARY 2007



RAILSAFE is a LEONARDO DA VINCI
Community Vocational Training Action Programme Project

Report of RAILS SAFE European Seminar at TWI on 25 January 2007

1. Introduction by Bob Sawdon

Provided background from original idea in DG 4.2 (a drafting group working under WG4 of SC1 of CEN TC 256) to create a database of track welders. This material led up to the creation of the Leonardo de Vinci project RAILS SAFE. An aim is to give passports to welders that are recognised and allow rail welders to work in different countries.

2. Background by Hans van den Brug

Gave an introduction to the RAILS SAFE project. The purpose is the "Development of a Harmonised System for Education, Qualification and Certification of Railway Track Welders". There are nine partners in the project which concentrates on cutting, welding, grinding and safety. Its objectives are:

- Harmonised education, training and qualification makes exchange of welders possible, nationally and in Europe.
- Certification assures continuing vocational education for life-long competencies.
- Qualification and certification also provides visible verification of a welder's competence.
- The harmonised system adds necessary detail to the EN 14730 standards.

The expected results of the project are seen as:

1. Understanding industry requirements.
2. Guideline for the education, training, qualification and certification of railway track welders.
3. Plan for an organisation to operate the system.
4. Guideline for welding procedures.
5. Database of qualified and certified welders.
6. Pilot courses with examination and qualification.
7. Dissemination and implementation.

Ir van den Brug identified the purpose of the seminar as being to present and discuss the results and to hear the views of those present in order to move towards consensus on a harmonised training and certification system. He outlined the process used within the project to produce the results and highlighted the educational structure developed to meet industry requirements.

He concluded that feedback in the workshops identified general support for the development of a harmonised structure but recognised there was some opposition to intended outcomes of the project. To deal with the objections, the project proposed a practical test specification for welding procedures. There was also to be a web-based database of qualified and certified welders.

Finally, Ir van den Brug outlined the future activities of the project. These would include pilot courses with examinations and qualifications and implementation of the system in willing countries and the establishment of a European umbrella organisation.

In the questions, Ir van den Brug was asked if the project would extend to other welding processes. In responding, he said they had concentrated on aluminothermic welding but there was interest in other processes and further projects may be initiated to follow the existing one.

20 June 2007

3. Introduction to EN 14730-2 by Dr Keichel and Mr Rominger

Mr Marc Rominger opened the presentation by explaining the work of CEN/TC256 WG4 which is responsible for EN 14730-2: 2006. Dr Jorg Keichel took over to explain about the aspects of those parts of EN 14730-2 which correspond with the RAILS SAFE project.

He projected clauses from the standard and argued that this structure was adequate without the need for a separate structure. In his conclusions he presented a statement from WG4 members which highlighted the objections to RAILS SAFE. These were:

- a) Specific welding techniques (cast joint techniques) and proprietary process where training and education should be controlled by the Railway Authority (RA) and process supplier.
- b) Strongly related to railways/rails and their demands.
- c) No interference with other welding techniques and the education and training of those.
- d) Different processes developed for different specifications and track circumstances.
- e) Specific and different not exchangeable processes with differences in execution, consumables and equipment.
- f) Different suppliers with product responsibility.

WG4 also had specific comment on the RAILS SAFE project. These being:

- i) All relevant subjects of the RAILS SAFE project are covered by EN 14730-2.
- ii) If there are additional requirements to be defined, it should be the responsibility of the RAs.
- iii) There is no need for an additional organisation (ANB) in between RA, contractor and supplier. This would just add expensive bureaucracy.
- iv) There is no need for an European database for welders. Problems of personal data privacy according to the law of some countries.
- v) Comment: RAILS SAFE has restricted knowledge of aluminothermic process and the requirements of the railways.

In the discussion, Mr van den Hurk asked about the criteria for contractors. This was answered in that it was covered adequately elsewhere in the standard. Mr van den Hurk then said he wanted common welder qualification processes in the different countries since he had contracts in other countries than the Netherlands. This led to an extensive discussion but the response was that the processes suppliers were responsible for the processes and the RA were responsible for the training and qualification requirements. However, it was recognised by Dr Keichel that in fact 80% of the training is common for the European countries and only 20% is country specific. This of course is the basis for harmonisation.

Ir van den Brug then responded to the points raised by WG4. His points were:

- Ai) EN 14730-2 covers the basic criteria but does not provide the detail. Therefore, the application is not necessarily harmonised. The response that this detail is provided by the RAs is not sufficient to ensure a harmonised system.
- Aii) It is agreed that the RAs are responsible.
- Aiii) The purpose of extended organisation is not to insert it between the RA and the contractors/suppliers. Its objective is to provide a European umbrella for the control of the system.
- Aiv) Maybe there is no need for a European database at present but it is very likely it will be in the future.

4. Presentation and detailed discussion of a Guideline for education, qualification and certification by Tim Jessop

Eur Ing Jessop opened his presentation by explaining that failures occurred in welded constructions but that most of these happened despite knowledge being available that had it been applied, the failures would not have happened. The outcome of this is that there are a growing number of standards aimed at transferring knowledge to ensure that good practice is adopted. In welding, there is a solid framework of such standards. Harmonisation is different but depends on the willingness of people to seek harmonisation. He referred to ISO 14731 which dealt with welding coordination and referenced the harmonised IIW qualifications as a means of satisfying the technical knowledge requirements in the standard. He said the aim of the RAILS SAFE project was to produce a similar harmonised system that satisfied certain of the requirements of EN 14730-2.

He then went on to explain about the Guideline which presents the "Minimum requirements for the education, training, examination, qualification and certification of railway track welding personnel". He identified the purpose of the Guideline as being:

- A system to train, qualify and certify a European Aluminothermic Welder (EAW).
- To describe the knowledge and skills a welder requires to produce ATW joints on rails independently.
- To describe the process of training and qualifying welders.
- To support compliance with EN 14730-2.
- To achieve European harmonisation in the competence of rail welders.
- Wide range of expert input.

Eur Ing Jessop then defined the structure and its main items. These items were: access conditions (prior knowledge required), instruction programme (theoretical and practical for an individual ATW process), examinations and tests, award of diplomas, award of certificates for specific processes, renewal of certificates and transition arrangements.

He then summarised the theoretical training requirements (minimum 40 hours) and the practical training in one ATW process (minimum 73 hours) and explained how the examinations and test would be carried out. He asked delegates to feed any detailed comments on the curriculum relating to the emphasis given or if anything was missing.

5. System for the implementation of the Education, Qualification and Certification system by Luisa Quintino

Professor Quintino introduced the "Rules for implementation of RAILS SAFE Guidelines for education, examination, qualification and certification of European railway track welding personnel" and invited feedback on the draft proposals to help in the creation of a unified scheme. She explained that the first part of the document dealt with RAILS SAFE Authorised National Bodies (RANB), the second with RANB assessment, surveillance and reporting procedures, the third with the standard requirements for Authorised Training Bodies (ATB) and, finally, the fourth, examinations.

The presentation generated no questions.

6. Additional subjects: Database of qualified and certified welders; and welding procedures by Mr Fernandes and Mr Henriques

Mr Henriques opened this session by presenting the Guideline for elaboration of Welding procedure specification (WPS) and relating the requirements to EN 14730-1/2. He described the proposed WPS form but recognised that it may not be practical for the welder to have it at the point of welding. This also applied to the process manuals.

In the subsequent discussion, points were raised about Instruction cards detailing the main parameters (joint gaps, gas pressures, etc) and systems for electronic recording of the parameters achieved in making the weld.

The part of the project dealing with welders database was presented by Mr Fernandes. He had based it on EWF software but he anticipated that it would be run by the Railway Authorities at national level and not by EWF or another body at the European level. In time, it could develop into a European system if that was the wish of the rail industry. The benefits of this approach would be that the RAs would be using a common software program and the data recorded would be the same and the interrogation systems would be similar. The system would allow training schools to input data which would reduce the requirement for a central body to have to add new information.

In the discussion, there were questions about the extent of information about welders in the database that could permit national RA to manipulate the market. It was difficult to gauge the significance of this but the point was noted by the Chairman and Mr Fernandes.

7. Importance of the guideline to a railway contractor by Mr van den Hurk.

Mr van den Hurk said his company carried out about 35% of the Netherlands business and had a joint venture with Corus (Grantrail). They also had business in a number of other European countries. They employ approximately 120 Thermit welders. Because of their varied interests, they have considerable interest in a common approach that avoids duplication of training. He also noted that skill levels of welders varied but you needed competent people to do the welding. Often the value of track welders is undervalued.

What Mr van den Hurk desires is:

- Structured training on a common European basis.
- Welders are knowledgeable and can work independently.
- Welders can move freely throughout Europe with limited training for country specifics).
- Diplomas and Certificates are recognised and valued.
- The job of trackwelder is acknowledged and valued.

He welcomed the RAILS SAFE project emphasising that:

- It provided common guideline for education, training, examination, qualification and certification.
- VolkerRail will implement the guideline first time in Pilot course in March 2007.
- Dutch national railway authority ProRail has decided to implement the guideline.
- VolkerRail encourages others to follow this RAILS SAFE initiative.

20 June 2007

8. General Discussion

Comments from Mr Philpott, Grant Rail, expressed concerns that the system must not be complicated . He said it should be simple and cost effective. It should be less bureaucratic than existing systems but he was not sure whether this would be achieved. Eur Ing Jessop said that the project was designed to add value but it was difficult to quantify because of the problem of including the saved costs by better quality.

Mr Hervey queried how the project would look into the lack of support for the RAILS SAFE project by the process suppliers. Ir van den Brug said this would be pursued by the project team and further discussions with WG4 would be sought. Mr van den Hurk commented that he did not feel there was such a great difference between WG4 and the RAILS SAFE project and encouraged the proposed contact to be pursued.

The use of the database to record weld failure performance by welders was raised since this was a problem for some companies using contract welders. The project team has discussed this previously but left this out as it was not part of the scope of the current project. Including welder performance would cause significant software development to preserve personal data and for this reason it was not included in the project at this stage. It was noted that contractors recorded this data already and this helped to weed out poor welders. The need for exchange of this sort of information was seen by some as important.

The time for examinations and tests was considered excessive and Eur Ing Jessop said he would look into this further.