EUROPEAN COMMITTEE
FOR STANDARDIZATION

[1]2016-01-15

CEN Workshop
Standards Compliant Formats for Fatigue Test Data (FaTeDa)

Project Plan

1. Status of the Project Plan

Approved at the kick-off meeting on 2016-01-11.

2. Background of the Workshop

Market environment

From materials supply through to the design and manufacture of advanced products, the engineering materials supply chain has become reliant on electronic systems. To date however, the engineering materials sector has largely failed to adopt technologies for collecting, exchanging, and reporting fatigue test data. Given this circumstance, the further development of technologies for engineering materials test data has the potential to improve the development and utilization of advanced materials for engineering applications.

Motivation for the creation of this Workshop

The Workshop is a component of the Horizon 2020 project on increasing safety in NPPs by covering gaps in environmental fatigue assessment (INCEFA+). As such, the Workshop is intended to deliver data formats that (1) support data collection and exchange between INCEFA+ partners and (2) provide the nuclear energy sector (and other industrial sectors that produce and/or rely on engineering materials data) an effective means for collecting, exchanging, and reporting fatigue test data.

Legal environment

The Workshop responds directly to the need for interoperability of engineering materials data and the standardization of data formats as mentioned in Article 3.2.20' (Nuclear Safety and Security) of the Annual Union Work Programme for European Standardisation[2].

[1] Date updated by the last editor

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Existing standards and standard related activities

The Workshop aims to deliver a computer-readable extensible data format representing ISO 12106 (Metallic materials — Fatigue testing — Axial-strain-controlled method). With regard to the development of the data formats, prior relevant Workshops include CEN/WS ELSSI-EMD and CEN/WS SERES and existing relevant Standards include ISO 10303.

3. Workshop proposers and Workshop participants

The Workshop proposers are the partners in the Horizon 2020 INCEFA+ project consortium. Workshop registered participants will include the partners in the INCEFA+ project consortium and stakeholders from the engineering materials sector and related industrial sectors.

4. Workshop scope and objectives

In the scope of the Horizon 2020 INCEFA+ project, the Workshop aims to deliver a computer-readable extensible data format representing ISO 12106 (Metallic materials — Fatigue testing — Axial-strain-controlled method) or its equivalent in stress-controlled (ISO 1099). In this context, the specific objectives are to develop a platform independent model and accompanying data formats that are representing ISO 12106; to implement an XML interface for data transfer; and to engage with ISO/TC 164/SC 5 on the development and eventual adoption of the data formats.

To achieve the listed objectives it is intended to examine Clause 3 of ISO 12106 with a view to identifying and accommodating constructs that are (1) common to all test types and (2) characteristic of fatigue testing. Models (such as UML and EXPRESS) and corresponding bindings (such as XSD and ISO 10303 Part 28) will then be developed that are broadly representing Clause 3 of ISO 12106. Validation of the technologies will then take place in the scope of the data management requirements of INCEFA+, namely by XML transfer to/from the materials database application at https://odin.jrc.ec.europa.eu.

As well as delivering the data formats needed to collect, exchange, and report fatigue test data effectively, the Workshop will respond to the recommendations of the earlier Workshops on engineering materials data, CEN/WS ELSSI-EMD and CEN/WS SERES. These recommendations include the identification of common constructs for engineering materials test data (i.e. generic models for engineering materials test data that can be specialized for individual documentary testing Standards) and (i.e. the harmonization of different approaches with the aim of delivering solutions that can find widespread adoption).

[2] **COM(2015) 686 final**

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Given that the proposed work is closely related to the earlier CEN Workshops on formats for engineering materials data, it can be anticipated that the corresponding CWAs (namely CWA 16200:2010 on formats for mechanical properties data and CWA 16762:2014 on formats for materials pedigree data) will be subject to revision during the new Workshop, either for corrections or for alignment with the work performed in the scope of the new Workshop. In the case of CWA 16200:2010, it is anticipated that a new CWA will be published and the work plan of the proposed CEN Workshop is formulated accordingly in this respect.

5. Workshop programme

Work plan

The CEN Workshop duration is 20 months. The tasks of the CEN Workshop are planned to be completed over a 12-month period and will result in the delivery of **data formats representing** ISO 12106 **and two CWAs** on the topic of standards-compliant formats for engineering materials test data. The data formats will be verified using an **XML interface** that will allow transfer of data files from test facilities to the JRC materials database at https://odin.jrc.ec.europa.eu.

Deliverables

Deliverable D1—Beta version data model and formats for fatigue data representing ISO 12106 (T0+3, March2016)

Deliverable D2—Release version data model and formats for fatigue data representing ISO 12106 (T0+9, September 2016)

Deliverable D3—Prototype version of an XML interface for data transfer enabling INCEFA+ partners to transfer data files from their test facility to MatDB online in the common data format (T0+6, June 2016)

Deliverable D4—Production version of an XML interface for data transfer enabling INCEFA+ partners to transfer data files from their test facility to MatDB online in the common data format (T0+9, September 2016)

Deliverable D5—Final draft for public commenting before publication of a new CEN Workshop Agreement on formats for tensile test data that supersedes CWA 16200:2010 (T0+12, December 2016)

Deliverable D5_1—Approval of a new CEN Workshop Agreement on formats for tensile test data that supersedes CWA 16200:2010 (T0+18, June / July 2017)

Deliverable D6—Final draft for public commenting of a new CEN Workshop Agreement on formats for fatigue test data (T0+12, December 2016)

Deliverable D6_1—Approval of a new CEN Workshop Agreement on formats for fatigue test data (T0+18, June/July 2017)

Milestones

Milestone M1—Project plan posted for public comment (December 2015)

Milestone M2—Kick off meeting (January 2016)

Milestone M3—Second plenary (June 2016, coincident with the 6-monthly INCEFA+ project meeting)

Milestone M4—Third plenary (January 2017, coincident with the 6-monthly INCEFA+ project meeting)

Milestone M5—Final plenary (June/July 2017, coincident with the 6-monthly INCEFA+ project meeting)

Milestone M6—Final drafts of CWAs delivered to CEN (June/July 2017)

Milestone M7—CWAs published (August/September 2017)

6. Workshop structure

Chairperson

The Workshop Chair is responsible for ensuring the development of the CWA respects the principles of the adopted project plan and the requirements of this document.

Secretariat

The Workshop Secretariat will provide the support needed to implement the Workshop.

The Workshop Secretariat shall bring major problems encountered in the development of the CWA to the attention of CEN-CENELEC Management Centre (CCMC) in order for solutions to be found. Irrespective of the above, any CEN/CENELEC national Member may exercise the right of appeal in accordance with the CEN/CENELEC Internal Regulations - Part 2, clause 7 including where this Guidance document is not observed.

The Workshop Secretariat shall contact CCMC in cases where possible conflict could arise from adoption of a CWA project.

The Workshop Secretariat shall record the organizations/participants. In order to ensure transparency, the documents of the Workshop should be uploaded on an electronic platform (Livelink).

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Editing team

The Workshop Editing Team will undertake the drafting of the CWAs on behalf of the registered participants. Workshop Editing Team will consist of participants in the INCEFA+ project.

Registered participants

The Workshop registered participants will review and approve the work of the Editing Team.

7. Resource requirements

All costs related to the participation of interested parties in the Workshop's activities will be borne by themselves.

8. Related activities, liaisons, etc.

Liaisons will be established with the INCEFA+ project consortium, ISO/TC 164/SC 5 (Mechanical testing of metals – Fatigue testing), ECISS/TC 101 (Test methods for steel), and CEN/TC 310 (Advanced automation technologies and their applications).

The Workshop shall report regularly to CEN/TC 310, whose scope is related to the scope of this Workshop, either in person or by correspondence, highlighting the most important issues and any possible conflicts that arise.

CEN/TC 310 may also request the Workshop Secretariat to provide any specific information it might require and has the right to send one representative to Workshop meetings as an observer.

On publication, the CWA shall be submitted to the relevant CEN/CENELEC technical bodies for assessment, with a view to possible transformation into a European Standard or other CEN/CENELEC deliverable.

9. Copy and exploitation rights

In order to fund the infrastructure needed to develop CEN-deliverables the right to exploit the content of CEN-deliverables is properly protected. This is being done through an 'exploitation rights assignment statement' (ERAS), through which experts participating in this CEN workshop transfer the exploitation rights on their contributions to CEN.

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