Task Group 1 – Fatigue

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Minutes of the 2nd web-meeting of TG 1

Wednesday, September 22nd, 2021 14,00 – 17,00 CET

1 Chairman Welcome of Participants

22.09.2021

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2 Chairman General EPERC Introduction

2.1 EPERC Major Objectives

Develop and manage R&D to support, improve and enlarge the scope of Pressure Equipment Construction and Operation Codes & Standards, with international harmonization challenge, if possible…

2.2 EPERC Action plan

- Regular comparison of existing International Codes & Standards
- Analysis with Industry and SDOs: gaps and needs
- Proposals of "Recommended Practices" with justification
- R&D programs
- Benchmarking and Examples
- Proposals of "Recommended Practices" with justification
- Code Case proposals
- Knowledge Transfer: Conferences, Workshops, International cooperation, Training

2.3 EPERC "connected" Countries

- All European Countries are "basic members" with registration fees
- Russia, China after BOD agreement
- USA (ASME ST-LLC) Japan (JPVRC), Korea (KEPIC) through dedicated agreement

3 Fatigue design rules by Claude FAIDY

This document presented by Claude FAIDY has the following content:

- General Introduction to Fatigue Design Rules
- Review of EN 13445 Fatigue Design Rules for vessels
- Review of EN 13480 Fatigue Design Rules for pipes
- Three examples of Fatigue open points
- EPERC General Strategic Plan
- EPERC TG 1 Potential R&D program

The discussion which followed the presentation was oriented to fatigue problems in presence of hydrogen.

Participants to the meeting thanked Claude FAIDY for this document which will facilitate the constitution of specialised working groups during the next meeting to be held on March 8th 2022.

4 Examples of new Working P

Some examples are given below:

WP 1: International Codes & Standards comparison

- Updating of existing comparisons for Nuclear, Oil &Gas and other non-nuclear Codes
- Gaps and Needs identification -

Main lines of R&D program

WP 2: New Fatigue Curves for Steels and non-steel materials

WP 3: Cyclic Stress-Strain Curves for many steels

WP 4: Cycle combination rules

WP 5: Crack Like Defects, Notches and Weld joints

WP 6: Effect of different environments: water, hydrogen

WP 7: Mean to Design Fatigue curves: reduction factors

WP 8: New values of Negligible Creep in liaison with WG CREEP.

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