

## Task Group 1 – Fatigue

Guy Baylac

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### Minutes of the 3<sup>rd</sup> web-meeting of TG 1

Tuesday, March 08<sup>th</sup>, 2022 14,00 – 17,00 CET

## 1 Chairman Welcome of Participants

### TG1 - 08.03.2022

PARTICIPANT	E-mail address	Member	Country
Yves Simonet	<a href="mailto:yves.simonet.ys@outlook.fr">yves.simonet.ys@outlook.fr</a>	YES	F
Guy Baylac	<a href="mailto:guy.baylac114@gmail.com">guy.baylac114@gmail.com</a>	YES	F
Claude Faidy	<a href="mailto:claude.faidy@gmail.com">claude.faidy@gmail.com</a>	YES	F
Michele Camposaragna	<a href="mailto:m.camposaragna@enginsoft.com">m.camposaragna@enginsoft.com</a>	NO	I
Roman Satosek	<a href="mailto:roman.satosek@danfoss.com">roman.satosek@danfoss.com</a>	NO	Slovenia
Mayur Brijlani	<a href="mailto:mayur.brijlani@gmx.de">mayur.brijlani@gmx.de</a>	YES	D
Philippe Rohart	<a href="mailto:philippe.rohart@cetim.fr">philippe.rohart@cetim.fr</a>	NO	F CETIM
Jader Furtado	<a href="mailto:Jader.Furtado@airliquide.com">Jader.Furtado@airliquide.com</a>	NO	F Air Liquide
Corrado Delle Site	<a href="mailto:c.dellesite@inail.it">c.dellesite@inail.it</a>	YES	I INAIL
Cihan Culusoy	<a href="mailto:culusoy@groupe-atlantic.com">culusoy@groupe-atlantic.com</a>	NO	TR Gr. Atlantic
Alper Tastan	<a href="mailto:a.tastan@erensan.com.tr">a.tastan@erensan.com.tr</a>	NO	TR
Luca Casiraghi	<a href="mailto:luca.casiraghi@rtmbreda.it">luca.casiraghi@rtmbreda.it</a>	NO	I RTM Breda
Pai Gopalkrishna	<a href="mailto:gopalkrishna.ipr@gmail.com">gopalkrishna.ipr@gmail.com</a>	NO	India
Davide Gadenz	<a href="mailto:gadenz@sant-ambrogio.it">gadenz@sant-ambrogio.it</a>	YES	I Sant'Ambrogio

## 2 Remarks on previous meeting minutes

No remarks.

## 3 Remember EPERC strategic Plan

The strategic Plan was remembered by the Chairman.

Comparison of International Codes & Standard

Identification of Gaps & Needs with Code Organization and Industry

Developments of R&D programs associated to dedicated Road Map developed by topics at the TG level

Development of Recommended Practices with all the rules validation

Performance of Benchmarks on practical cases

Code Case Proposal

Knowledge transfer through: Regular Thematic Technical Seminars, International Conference, Training courses, Master Classes, Summer School, Reports and Documentation

Communication and Registration to different EPERC Activities through: [www.eperc-aisbl.eu](http://www.eperc-aisbl.eu)

## 4 Overview of the EPERC TG1 Tasks

### WP 0: General introduction

Guy BAYLAC introduced the two presentations of Claude FAIDY distributed before the meeting.

- Fatigue Design Rules – Overview and last Code editions comparison
- Cyclic Stress-Strain Curves for many steels

These presentations will be available on the EPERC website.

### WP 1: Fatigue Design Rules – Overview and last Code editions comparison

This long presentation of Claude FAIDY gave a list of documents to consider for this comparison with indication of the edition to use. During the meeting the list was accepted and completed by addition of the last edition of the French Code CODAP.

- EN 13445-3 (2021) and ASME VIII (2021) - API (?) + CODAP
- EN 13480-3 (2021) and ASME B 31 (2021) - API (?)
- EN 12952-3 (2021) and ASME I (2021) - API (?)
- Nuclear codes ASME III (2021) - RCC-M (2020) / RCC-MRX (2018)
- Other Codes JSME (?) - KEPIC (?) - Czech (?) – Chinese (?) - UK (?)

### WP 2: Inelastic analysis in Fatigue (in connexion with TG 4)

In his presentation Claude FAIDY made proposals for:

1.  $K_e$  or  $K_f$  Plastic amplification coefficient evaluation
2. Cyclic strain evaluation

### WP 3: Environmental Fatigue

The following environments were considered:

**Water:** ASME III and NUREG report

presented in the "Fatigue General Introduction Presentation"  
(attached to the meeting minutes on slide 11)

**Hydrogen:** next TG1 meeting

List of other environments to be considered in future program?

## 5 TG 1 Participant involvements for next meeting

- 1 Code Comparison contributions?

- EN 13445 / ASME VIII / API + **CODAP**
- EN 12952 / ASME I / API
- EN 13480 & B 31
- ASME III / RCC-M + RCC-MRx
- **One description sheet by Code will be developed**

## 2 Literature Review contributions?

- On all the different topics identified in TG1 R&D potential program

## 3 Status of EN Standards contributions?

- EN 13445 (2021)
- EN 13480 (2021)
- EN 12952 (2021)
- Other EN standard concerned by Fatigue Design Rules (?)
- **One description sheet by EN with identification of Gaps & Needs will be developed**

## 4 Recommended Practices Report toward Code Cases contributions?

- later

## 6 Acknowledgment

Thanks to Claude FAIDY for his contribution to this meeting.

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