

**Minutes of the Technical Advisory Board for Mechanical Environments of the  
Confederation for European Environmental Engineering Societies  
Held on 18<sup>th</sup> September 2003 at Radisson SAS Royal Hotel, Helsinki, Finland**

Present at the Meeting of the Technical Advisory Board for Mechanical Environments (TABME) were;

Dr U. Braunmiller	GUS
Mr Ad Van Dorp	PLOT
Mr M. Dumelin	SSEE
Mr M. Juntunen	Kotel
Mr O Nevalainen	Kotel
Mr. D. Richards	SEE (Chairman)
Mr T. Trost	SEES
Dr K Zieghan	GUS

### **Matters Arising**

The meeting welcomed Mr Olivi Nevalanen from Kotel. A list of TABME members, including corresponding members, was circulated. As usual this list is attached to the minutes as Attachment No 1.

### **Systematisation of Measurement Methodologies**

**STANAG 4370.** Marcus reported that at a recent meeting in France the NATO group had essentially finished work on issue 3 and it was to be transferred to NATO headquarters in the next few weeks. The STANAG group had expressed a desire to declassify the document from NATO Unclassified. Marcus said that the issue 3 sources of data were better than those in issue 2, although work on AECTP methods is still to be done. The 600 series is to be on life extension techniques (the 10 step method) is out for circulation.

**Mil Std 810F** It was reported that work on change note 3 was in progress. However, there was no news on the future of Mil Std 810. .

**IEC TC104.** It was reported that a meeting of IEC TC 104 was planned for early November, otherwise nothing to report.

**DIN 30787.** Karl showed the meeting the latest version of DIN 30767 (available since August) which is the compilation of data. Some data editing has taken place for those which were clearly not valid. The document is currently out for comment (till end of November).

**CEN TC 261 SC5 WG14 – Test Methods & Test Schedules .** It was reported that no meetings of this group had occurred recently. It was understood that a new Chairman has now been appointed (from France).

**UN Orange Book.** Karl updated a report on the proposed vibration / bounce test for the UN “orange” book. This had been proposed by the US and Spain on several times (and rejected). Karl indicated that although this proposal had gained support, it appeared to have been rejected.

**CWA for Defence Procurement.** Karl had presented a briefing at the last TABME. He updated this from his attendance at the last meeting of this CWA. He said Phase 1 was now complete. That phase was mostly to identify standards currently in use. It had identified some 270 environmental standards (although a lot of these were the same standards "rebadged" within each country). Karl set out the top 10 issues identified in Phase 1 and the top 3 to be given priority in Phase 2. Environmental testing, EM and packaging were in the top 10 and environmental testing in the top 3. Phase 2 is intended to reduce the 270 or so standards to a manageable few. Karl had offered the services of CEEES for this (as agreed at the last CEEES main meeting). Chairmans Note: After the meeting Karl circulated electronically further information on the CWA.

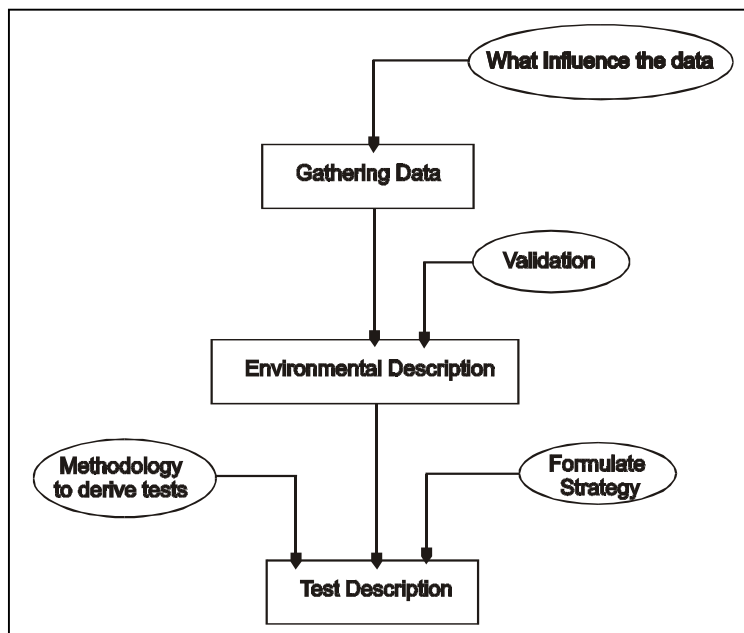
**Overview** At a previous meeting the group had generated an overview of European and International work currently underway relating to transportation stresses. That overview was included as an attachment in the

minutes of the last meeting. This meeting reviewed and updated the chart. The updated version is include here as attachment No 2. [Chairmans note: It is intended to review this chart on a regular basis.]

### Technical Papers - Working Practices

A decision was made at a previous meetings to compile a “working practices” document on the subject of deriving environmental and test severities from measured data. Following the previous discussions the Chairman had prepared an circulated a draft paper for comment at the last meeting. Further discussion on this draft occurred at this meeting.

During previous discussions it became apparent that the paper needed an overview. It was agreed and the working practices would need an overview of the larger process. It was further suggested that this could follow the same process as that of a paper by Markku viz. Environmental Test Tailoring Management plan, Life Cycle, Environmental Conditions, Derivation of Test Specification. Markku undertook to prepare an overview for the paper. The diagram set out at the previous meeting is shown below.



Discussions on the paper at the previous meeting included;

- a. A summary table is required.
- b. Conclusions are required i.e. a comparison of methods.
- c. It needs to be clear that the user can “mix” methods. Indeed a view was expressed that the methods presented only contain 3 fundamentally different approaches.
- d. Need a comparison of the methods against each other is needed. This could be by mean of a numerical example.
- e. What about shocks? Need to address the effects of shocks and how to create test for shocks.
- f. What about temperature?
- g. Do more methods need to be included to widen scope beyond transportation? (acoustically induced vibration was one suggestion).

The chairman undertook to prepare a modified version of the existing paper and circulate for additional input. However, the action for the group to review the exist draft remained.

**The Possibility of Initiating a CEN Workshop Agreement.**

Background. At the September 2002 meeting of the TABME a discussion had occurred on the possibility of initiating a CWA. It had been observed that work on both DIN 30786 and the work of IEC TC 104 WG 15 had resulted in the collation of transportation vibration and shock data. Previously PLOT had attempted to set up a group of agencies to collect and collate vibration and shock transportation data. A CEN Workshop Agreement (CWA) could permit much of the current and future data to be deposited in a manner which would allow ready access by a variety of end-users of the TABME.

It was stated that initiating a CWA would require a business case and also self supporting financially. A CWA would need a workshop to initiate a suitable business case. However, it was not known what fee CEN would require to initiate a CWA and whether funds were available. More to the point could CEEES afford it. It was agreed to look further at database formats at the next meeting.

**Topics for Future Consideration**

The members of the TABME identified a number of potential future topics for future consideration;

- Basic techniques for data collection / analysis
- FDS / MRS
- Handling Environments
- Test tailoring – comparison of national standards and current tailoring methods

On the same theme Karl tabled a few ideas from GUS;

- Test tailoring 20 yrs of experience (also raised at last main meeting)
- Measurement of environmental conditions during test driving.
- Slip tables
- Testing of wind power equipment
- Environmental testing for the manager (or how should I explain this to the boss)
- Building a database

**Any Other Business**

A brief description of each of the TABME members was circulated after the last meeting. It was intended that this should go on the CEEES website. This was discussed and a number of changes proposed. The latest version is included as Attachment 3

**Next Meeting**

The date of the next meeting of the TABME is planned for 19<sup>th</sup> February 2004 in Brussels.

**Attachments**

- 1 Names and Addresses of DTAB Members
- 2 An Overview of European and International work
- 3 TABME Membership (proposed for website)

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**An Overview of European and International work**

Group / Standard	Connection with CEEES Working Group	Other Connections
ISO – TC 108 wg 26 &27		Kjell Ahlin
ISO – TC 122	Thomas Trost	
ISO - Railway		
IEC TC 104	David Richards Aad Van Dorp Markus Dumelin Markku Juntunen	Tryggve Hell
CEN TC 261	Ulrich Braunmiller Thomas Trost	
CEN TC 320 Transportation Services		Soren Ostergaard
DIN 30787 NAVP 1.4	Ulrich Braunmiller Karl Zieghan	Ed Furrer
BSI	David Richards	
UN Orange Book		
Mil Std 810		Skip Connon
Nato Standard - AC310		David Richards
Nato Standard - AC301	Markus Dumelin	Peter van Harmelen David Richards
Nato Standard - ITOPS		
CEN Workshop Agreement Defence Procurement WS10	Karl Zieghan	
IEC Railways		Odd Sylwan

**Membership of the  
Confederation of European Environmental Engineering Societies (CEEES)  
Technical Advisory Board for Mechanical Environments (TABME)**

The aim of the CEEES Technical Advisory Board for Mechanical Environments is to advance methodologies and technologies for quantifying, describing and simulating mechanical environmental conditions experienced by equipment during its life cycle.



**David Richards C Eng MSEE**

Chairman of Technical Advisory Board for Mechanical Environments.

Representing the UK Society of Environmental Engineers (SEE).

David is employed as the Head of Structural Dynamics at INSYS Ltd in the UK. He is a UK National Expert on IEC TC 104 which is responsible for IEC environmental test procedures and categorisation documents. Also the convenor of the TC 104 working group updating mechanical environmental and categorisation strategy.



**Thomas Trost**

Deputy Chairman of Technical Advisory Board for Mechanical Environments

Representing the Swedish Environmental Engineering Society (SEES)

Thomas works for Packforsk - The Institute for Packaging and Logistics at Kista-Stokholm. Thomas has previously worked on a number of EU projects and represents Sweden on a number of international standards committees relating to environmental engineering test methods.



**Dr Ulrich Braunmiller**

Representing the Gesellschaft für Umweltsimulation (GUS)

Ulrich is a Physicist and Head of Environmental Engineering at Fraunhofer ICT, Pfinztal, Germany, a contract research facility.

His special research fields are mechanical transportation stresses where he achieved his doctoral degree and was coordinator of the EU Project SRETS (Source reduction by European Testing Schedules).

Ulrich is member of several standardization bodies (CEN, DIN, DKE), especially in environmental engineering and packaging.





### **Markus B. Dumelin**

Representing the Swiss Society of Environmental Engineering (SSEE). He is a past president of SSEE as well as CEES. He is Fellow of IEST (USA).

Markus has been engaged in the business of Environmental Engineering for over twenty years. He was leading manager of the Dept. of Environmental Technology at RUAG Munition in Thun, Switzerland. He is a Swiss national expert on IEC TC 104 and NATO AC/301. He is retired now but still engaged in consulting and teaching courses, especially in mechanics.



### **Jouni Siren**

Representing the of Swedish Environmental Engineers Society (SEES).

Jouni is employed at Saab Bofors Dynamics AB. He is working at the R&D department as an Test engineer. He works with field measurements and data analysis of mechanical vibration and shocks.



### **Goran Jansson**

Representing the of Swedish Environmental Engineers Society (SEES). Member of the board of SEES

Göran works at the R&D department of SAAB Bofors Dynamics in Karlskoga as an Environmental Test Engineer, with both specifications and tests. Test tailoring process co-ordinator in the company.



**Ton Geise**

Representing the Platform Omgevingstechnologie (PLOT)

Ton is the chairman of the Dutch working group on Mechanical Environment.

He is director of j.j. bos b.v., and specialised in sales and maintenance of test systems and components for simulation of the mechanical environment.



**Dr Karl-Freidrick Ziegahn**

Representing the Gesellschaft fur Umweltsimulation (GUS), Board member of GUS and Past President of CEEES (2000 – 2002)

Karl is a Physicist and Director General Management of the Fraunhofer ICT, Pfinztal, Germany, a contract research facility. More than 20 years in environmental engineering, achieved his doctoral degree with research on mechanical transportation environment. Chairman, convenor and member in several standardization bodies (CEN, DIN, VDI), especially in packaging and transportation environment.



**Aad van Dorp**

Representing the Platform Omgevingstechnologie (PLOT) and acting Chairman of PLOT.

Aad is employed at the National Aerospace Laboratory NLR ([www.nlr.nl](http://www.nlr.nl)) the central research organisation in the area of aerospace research, development and technology. He is head of the (small) laboratory for Vibration and Shock test and has run several environmental qualification programmes. He currently is Quality Manager of the NLR, is (the only) member of the Dutch national committee for IEC TC 104.



**Olavi Nevalainen**

Representing Kotel



**Markku Juntunen**

Representing Kotel