

**Minutes of the Transport Stresses Working Group of the  
Committee for European Environmental Engineering Societies  
Held on 27th February 1997 at Hotel Albert Premier in Brussels**

Present at the Meeting of the Transportation Stresses Working Group (TSWG) were;

Mr K. Ahlin	SEES
Dr. U. Braunmiller	GUS
Dr P Dehombreux	BSMEE
Mr. M. Dumelin	SSEE
Mr T Geise	PLOT
Mr. M. Juntunen	SEEF
Mr. D. Richards	SEE (Chairman)
Mr J. Seller	SEE
Mr. T. Trost	SEES
Mr. B. Wouters	SSEE
Dr K. Ziegahn	GUS

### **Actions Arising**

The meeting welcomed Mr Tom Geise, John Seller and Dr Dehombreux to the meeting.

A list of TSWG members, including corresponding members, was circulated. It was decided, where possible, to include E-Mail addresses to the address list of TSWG participants. This list is attached to the minutes.

Due to travel delays a number of participants were not available at the start of the meeting. For this reason a few agenda items were taken out of order. For convenience they are reported here as intended in the agenda.

### **Systematisation of Measurement Methodologies**

A number of aspects were addressed under this heading.

**CEN TC 261 WG4. (Minimisation of Packaging Waste - Test Methods and Schedules)** Dr Karl Ziegahn reported on a meeting of WG 4 that had occurred the previous day in Paris. He reminded the meeting that WG 4 was tasked with setting test methods and schedules for implementing the EU directive on minimisation of packaging waste. Karl said that WG 4 was considering putting forward requirements by which the manufacturers of packages would be required to “self certify” their products against a range of criteria. This criteria were intended to ensure that manufacturers considered minimisation of waste when designing their packages. To this end they would have to consider five aspects ;

- i. Source Reduction (i.e. minimise package size)
- ii. Re-usability
- iii. Material recycling
- iv. Organic material recovery
- v. Energy recovery.

Karl pointed out that to fulfil this self certification package manufacturers would need to consider transportation loads to a greater extent than is often currently the case. A proposed “pro-forma” for the source reduction aspect is attached to these minutes.

**CEN TC 261 WG1. (Minimisation of Packaging Waste - Management)** Thomas Trost indicated that this working group had little to report since the last meeting of the TSWG. Dr Braunmiller said that the associated ISO group had issued a new random vibration test. Whilst, the CEN group felt the procedure of this was reasonable the severities needed to be either removed or significantly enhanced. A copy of the draft is attached to these minutes.

**CEN TC 320 WG2 (Transport Quality).** At the last meeting of the TSWG Ulrich Braunmiller reported that this working group had two (partially conflicting) proposals which had been merged (a draft of this

combined draft was circulated with the minutes of the last meeting). Ulrich reported that this draft had, with a few changes, been circulated for comment by CEN.

**DIN 30787.** Karl Ziegahn reported for Ed Furrer that this DIN standard had been circulated for comment, although, the comments received have yet to be incorporated.

**CEN TC/104.** Kjell Ahlin followed up a report he had made at the Paris meeting of the TSWG concerning the links between IEC 721 (Environmental classes) and IEC 68 (Test procedures). Kjell said that some twenty pages of deficiencies between the documents have currently been identified. To resolve this a proposal has been made to merge CEN TC 50 and CEN TC 75 into CEN TC 104. The background and scope of this new committee are attached to these minutes for information.

**SRETS.** Ulrich Braunmiller gave a brief presentation of the progress of the SRETS work programme. He said that the three year programme was coming towards the end of its first year. Tasks 1, 2 and 3 were currently underway and scheduled for completion by the end of May. Task 4 was initiated last month.

### **Technical Papers from the TSWG**

**Bibliography** The original bibliography was distributed to the various societies some time ago. At the last meeting Thomas Trost offered to collate any new references relating to transportation stresses. However, he said to date none had been received. As such the general action on members is repeated, hopefully with a little more success.

**Action.** A general action was placed to submit any new references to transportation stresses to Thomas Trost.

**Monograph on Round Robin Methodologies.** The chairman stated that he had received several requests for copies of the draft of this document in recent months. As such he felt it would be advantageous to circulate the final document as soon as possible. Just before the meeting started the chairman had been informed that Christian Lalanne (who could not attend this meeting of the TSWG) would prefer the inclusion of extracts from “Mechanical Environment Test Specification Development Method” rather than the four older papers he originally proposed. The chairman undertook to contact Christian to find out whether the more recent paper was available on electronic media. The chairman also agreed to implement certain changes proposed at the last meeting of the TSWG to facilitate publication.

Chairmans notes: A full CEEES meeting is required to agree the society responsible for publishing specific CEEES documents. Whilst the SEE was suggested as the society responsible for publishing this was not formally agreed. Whilst, the document “Mechanical Environment Test Specification Development Method” was circulated at a previous meeting of the TSWG, the chairman still has a few copies remaining.

### **Round Robin Exercise**

The chairman reported that four waveforms had now been generated for the round robin exercise. The example disc that had been circulated a few weeks before the last meeting of the TSWG had resulted in useful responses. Essentially the purpose of the example disc was to ascertain whether the TSWG members could read and manipulate data the proposed data. However, it also resulted in reviewing the relative amplitude of the shocks and vibration and the removal of the time base.

The chairman said that each disc contained 440000 samples representing 352 s of data at a spacing of 0.8 ms. This would give a normalised random error of around 10 %. Of the four data files currently generated the second and the fourth may be subject to some minor changes. However, the data could be circulated within the next month or so. The four data files contained the following;

Data File 1 A simple “flat” spectra with a few superimposed half sines of the same amplitude and duration. The shock amplitude is around 9 times the random rms.

Data File 2 A more complicated random spectra with superimposed decaying sines. All decaying sine pulses have same amplitude and frequency. The shock amplitude will be around 8 times the rms of the random vibration.

Data File 3 A quite complicated spectra with significant low frequency component (i.e. Typical of road transportation vibration) with superimposed decaying sine pulses. The sine pulses have different amplitudes but same frequency and damping.

Data File 4 A shaped random spectra but with nonstationary rms values. The superimposed sine pulses have different amplitudes, frequency and damping.

The chairman asked whether one of the TSWG members could check the data before circulation. In his absence the members “volunteered” Ed Furrer. The chairman said he would contact Ed on this matter. The chairman had circulated with the agenda a statement of the objectives of the round robin exercise and a request for participants. The members of the TSWG agreed to pursue this with their own societies to recruit participants. A copy of the statement and request is attached to these minutes.

**Action.** The members agreed to recruited additional participants from their individual societies.

### **Presentations**

Markus Dumelin made a brief statement as to the progress made by the Swiss society on measuring road transportation data. Following this a discussion took place on the measurements been made as part of the SRETS work.

### **Thematic Network.**

A very productive discussion took place on the possibility of initiating a thematic network. The concept of a thematic network had been discussed at the last meeting but no definite topic had been identified. Thematic network funding is intended to permit co-ordination of applicable research and facilitate the interchange of technology and know how. In practice this means the costs associated with meetings, translations etc. However, thematic network funding does not fund the research itself. As such if we are to use this approach a need exists to identify current or future research and development which is common to a number of TSWG members. A suggestion was made at the last meeting for a thematic network co-ordinating the technology involved in undertaking combined vibration and shock tests.

It was agreed that the topics discussed at that meeting were probably too narrow in scope. Two broader topics were suggest at this meeting. One topic suggested was to pursue the reusability of transportation data. This could encompass the measurement strategy of DIN 30787, the need for consistent data reduction strategies and the ability to transfer data. The second topic was an expansion of the current round robin exercise. The chairman agreed to discuss both of these with Antoon Vyverman from Ascent.

Subsequent discussions with Antoon indicated that the round robin option may not fit within the thematic network framework (it more properly falls into a concerted action framework). However, if the round robin were used to identify methods in current use then it fitted with concept of re-use of data which in turn fitted into the thematic framework.

**Action.** The chairman agreed to set out a proposal for a thematic network submission in May.

### **Any Other Business**

The members had no items of business not raised in the meeting.

### **Next Meeting**

The date of the next meeting of the TSWG is Tuesday 30th September at ICT at Karlsruhe.

## **Enclosures**

1. Names and Addresses of TSWG Members
2. A “pro-forma” for source reduction proposed by CEN TC 261
3. Proposed ISO Random Vibration test.
4. Background and scope for CEN TC 104 committee
5. Objectives of the round robin exercise and a request for participants

## **Distribution**

Mr K. Ahlin  
Mr M. Belotti  
Dr. U. Braunmiller  
Mr D. Charles  
Mr. M. Dumelin  
Dr P. Dehombreux  
Mr. R. Finger  
Mr. E. Furrer  
Mr T Geise  
Mr. T. Hell  
Mr K. Janousky  
Mr. M. Juntunen  
Mr C. Karsberg  
Mr. C. Lalanne  
Mr J. Moriceau  
Mr. D. Richards  
Mr G. Ruding  
Mr J. Seller  
Mr T. Schreiber  
Mr H. Torstensson  
Mr. T. Trost  
Mr. B. Wouters  
Dr. K. Ziegahn  
plus CEEES Secretariat

**Enclosure 1**

**Enclosure 2**

**Enclosure 3**

**Enclosure 4**

**Enclosure 5**