

Minutes of the Meeting  
USACM ad hoc Committee on  
Verification & Validation  
[\[http://www.schwer.net/VnV\]](http://www.schwer.net/VnV)  
14 Nov 99

*(draft version 22 Nov 99)*

List of attendees:

John Fortna	Manuel Gutierrez	Allan Pifko	Len Schwer
Mike Giltrud	Hans Mair	JN Reddy	Don Simons
Jim Gran	Bill Oberkampf	Sunil Saigal	Ren-Jye Yang

1. The meeting was called to order by Len Schwer at 6 PM and all attendees were introduced. A brief introductory presentation was made by Len Schwer.

[\[http://schwer.net/VnV/Meetings/14Nov99/LES-14Nov99.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/LES-14Nov99.pdf)

**2. Nominations** for the positions of chair and vice-chair were solicited. In the resulting vote Len Schwer was elected chair and Hans Mair vice-chair.

**3. Presentations on organizational V&V requirements** were made:

Mike Giltrud for the Defense Threat Reduction Agency (DTRA)

[\[http://schwer.net/VnV/Meetings/14Nov99/dtravnv.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/dtravnv.pdf)

Hans Mair for the Institute for Defense Analyses (IDA)

[\[http://schwer.net/VnV/Meetings/14Nov99/Mair-USACM.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/Mair-USACM.pdf)

Bill Oberkampf for Sandia National Laboratories

[\[http://schwer.net/VnV/Meetings/14Nov99/USACM.VVDOE.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/USACM.VVDOE.pdf)

Ren-Jye Yang for Ford Motor Company **[PDF?]**

**4. The role of experimental mechanics** in Computational Solid/Structural Mechanics (CSM) V&V was presented by Jim Gran of SRI International

[\[http://schwer.net/VnV/Meetings/14Nov99/JKGV&V.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/JKGV&V.pdf).

**5. Reports on Standards Committees:**

A. Allan Pifko reviewed his efforts with ASME regarding a possible ASME Standards Committee on V&V. Allan introduced Manuel Gutierrez of ASME who outlined the petition procedure for becoming an ASME Standards Committee. Allan Pifko will develop an appropriate petition and lead it through the ASME approval process.

B. Sunil Saigal reviewed his efforts with ASCE regarding a possible ASCE Standards Committee on V&V. ASCE is interested in having such a committee, but would like to co-sponsor the committee with ASME. Manuel Gutierrez said ASME does not co-sponsor standards committees. Sunil will develop an appropriate petition and lead it through the ASCE approval process.

C. Bill Oberkamp suggested the committee not seek similar approval of AIAA at this time. He felt that ASME and ASCE represented a broader technical base in solid mechanics/structural dynamics than AIAA.

The petitions must demonstrate a need for the proposed standards committee and recommend the committee members; it is recommended the membership have a broad base and may include non-ASME/ASCE members and foreign members.

We intend to pursue the establishment of a jointly sponsored committee and Allan will investigate the ASME objections.

**6. Bill Oberkamp gave a presentation** on the experience of the AIAA Computational Fluids Dynamics (CFD) V&V Standards Committee.

[\[http://schwer.net/VnV/Meetings/14Nov99/USACM.AIAA.Guide.pdf\]](http://schwer.net/VnV/Meetings/14Nov99/USACM.AIAA.Guide.pdf)

Bill's specific recommendations include:

Use the existing AIAA Guide, but expand to CSM.

Topic to be added and/or expanded in the CSM Guide:

Additional terminology, e.g. error, uncertainty, prediction.

Detailed verification procedures

Detailed validation procedures

Strive for a balance between static and dynamics CSM

Join the Standards Committee of ASME or ASCE

Expand membership to include diverse viewpoints.

### **7. Discussion of how to proceed using AIAA CFD Guide as a starting point.**

Hans Mair will form and lead a small group (2-4 members) to draft the initial CSM Guide. This draft will be reviewed by the full committee, and others interested in V&V. We will strive for a consensus document and not take a vote on accepting the document until we feel we have an appropriate consensus.

### **8. Discussion on expanding the membership.**

The Committee welcomed three new members nominated by Hans Mair:

Dr. Paul Muessig [MuessigPR@navair.navy.mil]

Dr. Dale Pace [Dale.Pace@jhupl.edu]

Dr. Patrick J. Roache [hermosa@swcp.com]

The Committee will seek additional members in the areas of:

Experimental Mechanics

Probabilistic & Statistical Mechanics

Engineering Management

Software Developers

Industry

**9. Action Items:**

- Mair – recruit group to draft CSM V&V Guide
- Pifko – develop ASME standards committee proposal
- Saigal – develop ASCE standards committee proposal
- Gran – find additional experimental mechanics member
- Schwer – invite Ben Thacker (SwRI) to join the committee
- All – recommend new members and advertise our work
- Schwer – develop draft rules of operation for committee