

**5th HEAVY VEHICLE SIMULATOR INTERNATIONAL ALLIANCE (HVSIA)
16 to 18 JULY 2008
CALIFORNIA, USA**

PROCEEDINGS

PRESENT:

Name	Organisation	Code
John Harvey <i>Chair</i>	UCPRC	JHar
Randy Iwasaki	Caltrans	RI
Quint Mason	COE-ERDC	QM
Don Alexander	COE-ERDC	DA
Bouzid Choubane	FDOT	BC
Louw du Plessis	CSIR Built Environment	LdP
David Jones	UCPRC	DJ
Leif Wiman	VTI	LW
Benoit Verhaeghe	CSIR Built Environment	BV
Lorina Popescu	UCPRC	LP
David Spinner	UCPRC	DS
Wynand Steyn	CSIR Built Environment	WS
Nick Coetzee	Dynatest/UCPRC	NC
Carl Monismith	UCPRC Berkeley	CM
Joe Holland	CT DRI	JHol
Nick Burmas	CT DRI	NB
Irwin Guada	UCPRC	IG
Per Ullidtz	Dynatest	PU
Rongzong Wu	UCPRC	RW
Qing Lu	UCPRC	QL
Bruce Steven	UCPRC	BS
Erwin Kohler	Dynatest	EK
James Signore	UCPRC	JS
David Kim	UCPRC	DK
Gabriel Bazi	Dynatest	GB
Steffani Chin	Caltrans	SC
Su Weiguo	The SCUT China	SW
Les Sampson	Sampson Consulting	LS
Pat Loots <i>Secretary</i>	Executive Focus	PL

APOLOGIES:

- Edel Cortez, ERDC Hanover
- Joe Mahoney, University of Washington
- Two new owners of an HVS, India and China, were unable to attend the meeting and sent their apologies.

Relevant Notes and Actions from the Meeting		
Item	Note/Action	Responsibility
Day 1: UC Richmond Field Station		
Welcome and Introduction	<p>John Harvey welcomed delegates to the meeting and summarised the key items from the last HVSIA meeting held from 20 to 22 June 2007:</p> <ul style="list-style-type: none"> • A sunset review was instituted for some task groups and other task groups were revamped. • A matrix was instituted and an update will be given during the meeting. • The information using Wiki will be fed back by Wynand Steyn during the meeting. • China and India have been invited to the meeting as new HVS owners but were unable to attend the meeting. 	

Relevant Notes and Actions from the Meeting <i>continued ...</i>		
Item	Note/Action	Responsibility
Welcome and Introduction	<p>John Harvey also summarised the relevant items from the ExCo meeting as follows:</p> <ul style="list-style-type: none"> • The Constitution was accepted and will remain as is. • The status of the Task Groups will be reviewed at the end of each Task Group feedback on day 2 of this meeting. • There were questions for Dynatest regarding technical support and succession planning which includes the training of Aaron Philpott to support and ultimately replace Stefan Budericks, providing support to the HVS community. There is strong Dynatest support to continue the HVS programme. • Nick Coetzee will look into managing the HVSIA Wiki-related issues on HVS hardware and software operational issues. Nick and Wynand will follow up. • One of the strategic goals was to invite potential clients involved in APT programmes to the meetings. • Don Alexander, COE-ERDC – Vicksburg has been elected as the Chair for 2009 and will look into the venue and dates of the next meeting. • Each organisation was handed a form at the meeting and were requested to complete the information requested, such as contact information and the extent of expertise available within the HVS-family for compilation of a Panel of Experts to be placed on the HVSIA website. 	<p>NC</p> <p>DA</p> <p>All</p>
Feedback on current and future international initiatives	<p>Caltrans and University of California Messrs John Harvey and Nick Burmas gave feedback on current and future Caltrans initiatives. The presentation is shown in Appendix C-1. Dave Jones showed a graph on rut progression which is given in Appendix C-2.</p>	
	<p>VTT/VTI Leif Wiman, VTI Sweden gave a presentation which is attached as Appendix D.</p>	
	<p>COE-ERDC-Vicksburg Don Alexander gave feedback on behalf of the U.S. Army Engineer Research and Development Center, Vicksburg, MS. The presentation is shown in Appendix E.</p>	
	<p>Florida DoT Bouzid Choubane gave feedback from Florida DoT. The presentation is shown in Appendix F. The following item is relevant:</p> <ul style="list-style-type: none"> • Aging Study – It was recommended that FDOT consider the South African study. • A report on the machine monitoring/performance management system is available from Louw du Plessis and will be placed on the HVSIA web site. 	
	<p>COE-ERDC-Hanover As Edel Cortez could not be present at the meeting, an e-mail was sent to Nick Coetzee for presentation to the meeting: “We recently completed the APT of the test sections in our pooled-fund study on geogrid base course reinforcement of flexible pavements. This study is lead by Maine DoT. We will be conducting a forensic exploration on these test sections during the next two weeks. Under the terms of our agreement with Main DoT, the University of Maine and the Maine DoT will be drafting a final report that will present the findings of this study. Our role in this study was limited to executing the experiments in the FERF. Maine DoT and the University of Maine will relate these results to other field experiments that they have conducted in Maine. Based on the final report findings, the project’s steering committee will decide on any further development.</p> <p>In the near future, we will be actively seeking opportunities for new APT work using the capabilities of our FERF facility, especially its powerful temperature and moisture controls. Although, direct funding from the Army is not likely due to diverted priorities, we hope to find opportunities to pursue future APT studies perhaps via pooled-fund studies.”</p>	
<p>Gautrans/CSIR Benoit Verhaeghe gave a presentation on behalf of Gautrans. The presentation is included in Appendix G-1.</p> <p>Louw du Plessis gave feedback from the CSIR and the presentation is shown in Appendix G-2.</p>		

Relevant Notes and Actions from the Meeting <i>continued ...</i>		
Item	Note/Action	Responsibility
Day 2: UC Davis		
International collaboration	Feedback from TRB Committee, AFD40 – Bouzid Choubane <ul style="list-style-type: none"> The next TRB meeting is scheduled for 11 to 15 January 2009. The APT conference will take place in Madrid, Spain from 1 to 3 October 2008. This is seen as an important forum for exposure of HVSIA activities. All attendees of this meeting were requested to give Louw du Plessis a list of papers and people attending the APT'08 conference for consolidation. 	
	COST 347 – Leif Wiman <ul style="list-style-type: none"> A paper has been submitted to the APT conference. A 1-page information page from each facility in Europe is available. The final report is expected to be published before the APT Conference. The report will be available on the COST347 website which can be accessed via the HVSIA website. As all actions are completed, COST 347 will have come full term. This item will remain on the agenda but under a European feedback item. Collaborative efforts have not materialised to date. Wynand Steyn was requested to make contact with Steve Philips, Secretary General of FEHRL (based in Brussels), in an effort to take this forward. Madrid will be used as the first stepping stone to collaboration and Wynand Steyn will liaise with Leif Wiman in this regard. Gregers Hildebrand, past chair of COST 347 should be kept in the loop. 	WS WS/LW
	CAPT – Dave Jones <ul style="list-style-type: none"> No activity since the last year due to problems with the pool fund management A new pool fund management systems has been created for the project. The States are being asked to take the funds out of the old pool fund and put it into the new pool fund. The next meeting will be notified when sufficient funds have been transferred to hold a meeting. Dave Jones will get the new website address of the pool fund and pass it on to Rianie Castelyn who will place it on the HVSIA website. 	DJ
	LTPP activities related to HVS programmes – Dave Jones <ul style="list-style-type: none"> The South African sections are the only ones that are running. 6 sections are currently being monitored. Findings are limited because of the age of the LTPP sections. Analysis is currently being undertaken. Any relevant trends will be reported at the next meeting. 	
	HVSIA website – Wynand Steyn <ul style="list-style-type: none"> The presentation is shown in Appendix H-1. Any available information that has not been included as shown during the presentation, should be sent to Wynand Steyn for inclusion. With regard to the APT instrumentation and data acquisition system, a picture of the relevant instrument could be of use and Wynand Steyn will look at incorporating this into the system. The cost benefit protocols are included on the website. Those that are not included should be sent to Wynand for inclusion. All access to this meeting and all past HVSIA meetings are contained on the website. Wynand to create a function to “select all” to download all information on a specific meeting and not only file by file. Minutes of the HVSIA Executive Committee will also be contained on the website with a password protected function for access to the ExCo only. The website should be demonstrated at the APT 08 conference. 	All WS All WS WS/PL/ ExCo

Relevant Notes and Actions from the Meeting continued ...		
Item	Note/Action	Responsibility
International collaboration	HVSIA website – Wynand Steyn – continued ... <ul style="list-style-type: none"> • There is an option of moving the HVSIA website to the Pavement Interactive (PI) Wiki. With regard to ownership of information, Wynand Steyn will discuss this aspect with Joe Mahoney. • The PI site is hosted by Pavia Systems at present and is financed by a pool fund. The funding finishes in one year. Wynand Steyn to follow up possible commercial aspects of this scenario. • The benefits of moving the HVSIA website to a Wiki site are understood. As some members could have sensitive information and need to protect their clients, before the HVSIA group will agree to moving the current HVSIA website to the Pavement Interactive site (Wiki). The commercial implications and benefits to Pavia for hosting the HVSIA website should also be understood. Wynand Steyn to follow up with Joe Mahoney. • Wynand Steyn will look at a first cut of the classification of 3 various information levels and send this to HVS owners for approval/changes as required. The move will only take place when all owners are happy with the information and security of their information. • The benefits of having a site on the Wiki and the increased exposure of HVSIA members' activities were a very positive aspect. • A page on the Wiki will be made available by the APT conference with a link to the current HVSIA website. • Wynand Steyn, John Harvey and Nick Coetzee will have discussions and give recommendations of how to proceed. 	<p>WS</p> <p>WS</p> <p>WS</p> <p>WS</p> <p>WS/JHar /NC</p>
	On-line pavement information tools – Wynand Steyn <ul style="list-style-type: none"> • The presentation is shown in Appendix H-2. 	
Feedback from Task Groups	Activity Coordination Task Group – Wynand Steyn <ul style="list-style-type: none"> • The presentation is shown in Appendix I-1. • The Wiki falls into this task group and discussion has been captured under "HVSIA website" 	
	Instrumentation and Results Task Group <ul style="list-style-type: none"> • Wynand Steyn will drive this task group. • No new information received during year • No updates have been made at present and Wynand will send e-mails requesting updates. • All are asked to make sure that tests done are updated in the matrix. After analysis, Wynand Steyn will circulate accordingly. 	<p>WS/All</p> <p>WS</p>
	Design Catalogue Project – Wynand Steyn <ul style="list-style-type: none"> • The presentation is shown in Appendix I-2. • Proposed action • Provide a discussion e-mail link on the website/Wiki (similar to a blog) • Send an e-mail with a data request to this link – routed to all HVSIA members • Member with data responds – correspondence thread on website/Wiki • Organise how to use data internally • Keep track through correspondence thread – if other parties are interested 	<p>WS</p>
Update from Dynatest on the most recent sale of HVS machines	Update on India – Nick Coetzee <ul style="list-style-type: none"> • Worked with agent in India where the main contact with Sunil Bose. • No response was received to invitations to attend the HVSIA meeting. • Nick will again follow up regarding Indian attendance at the APT conference. Update on China – Nick Coetzee <ul style="list-style-type: none"> • Worked with Dynatest in China. • Communications are difficult. • China requested a visit to APT programmes in the USA, but has not responded to the invitation. • Delivery of the Mk VI machine in china is 3 weeks ahead of schedule. • Site acceptance is expected to be done by end of August 2008. • A Chinese delegation is expected at the APT conference. 	<p>NC</p>

Relevant Notes and Actions from the Meeting continued ...		
Item	Note/Action	Responsibility
Workshop	<p>Workshop on Permanent Surface Deformation HVS Loading Condition Protocols The introductory presentation was given by Wynand Steyn and is contained in Appendix J. The following items were captured:</p> <ul style="list-style-type: none"> Florida DOT did a lot of work on the various directions and found that the uni-directional is better with wandering. California use uni-directional, channelised for rutting. ERDC-Vicksburg also reported a problem between channelised and wandering but their tests were related to lower pavement layers. John Harvey cautioned that care should be taken in drawing conclusions for rutting from wandering traffic as the trafficking patterns were not random. CSIR will take note of the discussions and build it into future tests. They may consider an initial small wandering pattern followed by channelised loading. The channelised traffic is suitable for ranking the mixes in terms of normal freeway traffic. CSIR will report further results at the next meeting. 	
Day 3: UC Davis		
Action from proceedings of 2007 meeting	<p>Moisture Sensitivity – Dave Jones The following action was agreed in the 2007 meeting and not contained on the 2008 programme: “Dave Jones will compile a protocol related to the testing of moisture sensitivity of materials with the HVS and circulate to members for comment. All comments should be sent back to Dave Jones for consolidation.” The following items are relevant:</p> <ul style="list-style-type: none"> The framework is complete and testing is being done at present. Wynand Steyn has prepared a paper for the APT 08 Conference and the document will thereafter be available on the website. 	
Workshops	<p>Workshop on Calibration of Mechanistic Empirical Design – Benoit Verhaeghe & John Harvey Benoit Verhaeghe gave a presentation which is attached as Appendix K-1. John Harvey gave a presentation which is attached as Appendix K-2. The following is relevant:</p> <ul style="list-style-type: none"> License to evaluate the CalME programme is available from John Harvey. For the next meeting, South Africa and California will give feedback on the evaluation process and the next steps. 	
	<p>Workshop on an HVSIA Coordinated Approach to APT 08 and the Pre-conference Workshops The following was agreed:</p> <ul style="list-style-type: none"> Bouzid Choubane will send an e-mail to the organisers requesting changes to the programme as discussed at the meeting. Louw du Plessis will restructure the workshop in line with the discussions. 	BC LdP
Wrap-up and future areas of co-operation	<p>The following additional items were noted:</p> <ul style="list-style-type: none"> Don Alexander as incoming Chair thanked John Harvey for his work to date and was optimistic about the future of HVSIA. He said that a lot of thought and discussion will be given to the next HVSIA meeting and will be communicated as required. 	

APPENDICES TO PROCEEDINGS:

- Appendix A: List of Attendees
- Appendix B: Programme
- Appendix C: Caltrans and University of California – John Harvey & Nick Burmas: *presentation*
- Appendix D: VTI Sweden – Leif Wiman: *presentation*
- Appendix E: CoE-ERDC-Vicksburg – Don Alexander: *presentation*
- Appendix F: Florida DoT – Bouzid Choubane: *presentation*
- Appendix G-1: Gautrans – Benoit Verhaeghe: *presentation*
- Appendix G-2: CSIR – Louw du Plessis: *presentation*
- Appendix H-1: International Collaboration: HVSIA website, PRAC website – Wynand Steyn: *presentation*
- Appendix H-2: International Collaboration: On-line pavement information tools – Wynand Steyn: *presentation*
- Appendix I-1: Feedback from Task Groups: Activity Coordination Task Group – Wynand Steyn: *presentation*
- Appendix I-2: Feedback from Task Groups: Design Catalogue Task Group – Wynand Steyn: *presentation*
- Appendix J-1: Workshop on Permanent Surface Deformation HVS Loading Condition Protocols – Wynand Steyn: *Presentation*
- Appendix K-1: Workshop on Calibration of Mechanistic Empirical Design: South African progress – Benoit Verhaeghe: *Presentation*
- Appendix K-2: Workshop on Calibration of Mechanistic Empirical Design: Caltrans – John Harvey: *Presentation*
- Appendix L: Photos of Delegates