Informal Working Group Meeting for Side Impact - WorldSID Dummy
3rd Meeting
SAE Offices, Troy, MI, United States of America, April 12, 2010

Draft Summary Report

1. Welcome and Introductions

The chairperson, Mrs. Susan Meyerson, opened the meeting and welcomed everyone. Informal group delegates and representatives were introduced.

2. Approval of Agenda

The agenda was adopted after the inclusion of the presentation by FTSS.

3. Review of the February 2010 Meeting Minutes

A brief summary of the February 4, 2010 meeting in Tokyo was given. A draft of the meeting minutes was distributed via e-mail prior to the meeting. Any comments or corrections are to be sent to Mrs. Meyerson.

4. Discussions

4.1 Discussion of March 2010 WP.29 Activities

WorldSID Proposal – At theWP.29 March 2010 session, the U.S. introduced the proposal to evaluate and further develop a 50th male and 5th female WorldSID dummies. The proposal met with support from the group and approval was given to continue the informal working group meetings. The Chairperson of WP.29 requested the proposal be made into a formal document for consideration as GTR proposal at the June 2010 session. After a review of the 1998 Agreement, there are questions on whether the dummies themselves can be considered as a GTR. The dummy is a tool and therefore some of the 1998 Agreement requirements, such as benefit analysis, do not apply. There is an ongoing discussion with the Secretariat on how to resolve this matter.

Australian Proposal for a Side Impact Pole Test – At the WP.29 March 2010 session, Australia introduced a proposal to develop a side impact pole test, using the WorldSID dummies. This proposal was presented briefly at this, April12th, WorldSID meeting. Australia requested input on identifying current literature on the subject, statistics showing the extent of the side impact pole problem in different countries and regions, standards and/or regulations that should be considered, and the potential effectiveness in mitigating the problem. This proposal will be discussed in greater detail at the May 2010 GRSP session.

4.2 Status of Research on WorldSID Dummies

NHTSA – NHTSA is conducting its final review of the 50th drawing package. Primary effort is being spent on ensuring an open source on-board data acquisition system. NHTSA has taken receipt of their first 5th female dummy at the beginning of April and expects delivery of a second 5th, with the updated legs, at the end of April. FTSS has stated that should be able to provide the 5th drawing package to NHTSA in the May/June timeframe, for a confidential review. With regard to public accessibility of the 5th female drawing, NHTSA is in discussions with FTSS at this time and hopes to have a resolution to the problem soon.

Canada – Transport Canada is working with FTSS to update their two 5th female dummies. One will have the old legs; the other will have the revised legs.

Ford – Ford has an early version of the 5th female dummy, but has no budget at this time to update it.

FTSS – They have 2 fully updated 5th female WorldSID dummies.

EEVC- EEVC is in the process of signing off on the report of the research project using the 50th, conducted by TRL for the UK Department of Transport. At the recent Steering Committee meeting of EEVC, there was discussion of research focused on the 5th, but there are no firm programs in place.

European Commission – Is investigating whether they can fund a project to aid with the WorldSID research efforts. Early indicators are promising.

4.3 Task List

4.3.1 User's Manual

There are several versions of the WorldSID 50th manual: ISO, WorldSID task group, and NHTSA. ISO was tasked to draft a manual in ISO format. Revision 1 of this manual is expected to be completed in the next couple of months. While the ISO manual is expensive, the manual developed by the WorldSID task group is free. Additionally, NHTSA is finalizing its Procedures for Assembly, Disassembly, and Inspection (PADI) manual. At this time there is no problem having the 3 manuals, as long as there are no contradictions, but the group will need to review various versions and decide on submission of a final package to WP.29.

4.3.2 Onboard DAS

A need has been identified to allow for the use of an onboard data acquisition system (DAS) in both the 50th and 5th dummies. NHTSA and PDB have been communicating on how to go

forward with a simulation effort. PDB has committed to supporting the project and there will be an internal PDB meeting on April 13th to discuss how they will support. NHTSA, PDB, and ISO will need to discuss how to finalize the effort. FTSS has an FE model for the 5th Female, but it needs to be upgraded. A model of a 50th male has been in existence for some time. Status of efforts will be provided at the September 2010 meeting.

4.3.3 Seating Procedure

The ISO group is continuing work to develop seating procedures for the 50th in the front seat. They are having problems resolving differences in how to address seat back height and seat back angle. The group is currently incorporating new data and plan to provide an update on the efforts in September 2010. Once the issues are resolved, the ISO group will start the development of rear seat seating procedures for the 50th and then start the seating procedures for the 5th dummy. It was brought up that a fundamental question is whether the seating position should be the most frequently observed or the one with the most injury risk.

4.3.4 Advanced Instrumentation

There was continued discussion on the replacement of the 1D IRTRACC with the 2D IRTRACC. Canada and the UK, with support from TRL, will meet at the end of April to discuss the status of vehicle testing using the 50th with the 2D IRTRACC. Results are expected by September 2010. It was noted that there is interest from EEVC in this effort. NHTSA stated they plan to conduct research with the 2D IRTRACC in the 5th female and plan to form a subgroup under the WorldSID group to focus on this issue. NHTSA plans to hold a subgroup meeting this summer and will provide more details in May.

Transport Canada has also been conducting testing with the RibEye deflection measurement system. This testing has produced a lot of data that needs to be analyzed. The Medical College of Wisconsin has offered to assist in the data analysis. Additionally, they may be able to do some sled testing to compare the RibEye and the IRTRACC measurement devices.

4.3.5 Data Repository for 5th data

The ISO group will verify that they can use the WorldSID 50th archive website to store data from the WorldSID 5th. Dynamic Research Inc. will provide more info on gaining access to the data repository.

4.3.6 Certification Procedures for 5th

FTSS has a 5th female User's Manual that they can provide to the group. This can be used as a starting point. The group will need to define a set of test procedures to ensure repeatability among labs. Before NHTSA begins the evaluation of its 2 5th females, it will host a meeting to develop/define the reproducibility and repeatability procedures.

4.3.7 Injury Risk Curves

The ISO group is continuing to work on developing injury risk curves and the work seems to be going quickly. Preliminary 50th male risk curves were published at the 2009 Stapp Conference and the ISO group is working on determining which curves best represent the data used. They also indicate that they will be starting the 5th female risk curve analysis using scaling techniques. By the end of May 2010,ISO will provide a summary of the test configurations in which 5th female dummy and PMHS data is still needed. An Excel spreadsheet will be distributed with proposed tests. ACEA has committed to begin funding this research in this area starting at the end of 2010.

5. WorldSID 5th Female Ankle Design Review, FTSS – J. Wang (WS-3-3)

At the 2nd WorldSID meeting in Tokyo, there was discussion concerning the difficulty in adjusting the feet of the 50th dummy. A preliminary design for the 50th ankle has been developed. This presentation discusses options for using a scaled version of the 50th ankle for the design of the 5th female ankle. Neither the 50th or 5th ankle has been evaluated against biofidelity corridors. The preferred option is Concept 1, but FTSS is open to comment and suggestions.

6. Task List from Meeting

1) All – Please provide any certification available to the group to help in establishing certification requirements. (WS-2-7, 4.1)
2) FTSS/Autoliv - Share the results of 5th female tests when analysis is completed. (WS-2-7, 4.2)
3) NHTSA – Plan subgroup meeting to start a research on dummy thoracic displacement instrumentation to include IRTRACC and RibEye systems. (4.3.4)
4) ISO – Formalize a seating procedure for the WorldSID in the front & rear seat. (4.3.5)
5) Transport Canada - Will request of the ISO WorldSID Group that they coordinate a collaborative evaluation process of the WorldSID 5th Dummy to review data and provide a data archival function through the ISO website, in collaboration with FTSS. (4.3)
6) FTSS to provide NHTSA with a set of the WorldSID 5th drawings, on loan, for an inspection of the new NHTSA dummies. (4.2)
7) FTSS to make the WorldSID 5th User's Manual available to the group. (4.3.6)

7. Next meetings

- Summer 2010 – Sub-group meeting to discuss Advanced Instrumentation (IRTRACC & RibEye)
- September 22, 2010 – Germany (?)

Is tentatively scheduled for the week after IRCOBI and is in conjunction with the GTR 7 Phase 2 meeting.

8. Attendees:

Susan Meyerson (Chair)	USA/NHTSA
Stephen Ridella	USA/NHTSA
Bruce Donnelly	USA/NHTSA (via WebEx)
Dan Rhule	USA/NHTSA
Peter Martin	USA/NHTSA
Stephen Rouhana	Ford
Allan Jonas	Australia (via WebEx)
Thomas Belcher	Australia (via WebEx)
Peter Broertjes	EC (via WebEx)
Z. Jerry Wang	FTSS
Klaus Bortenschlager	PDB
Philipp Wernicke	PDB (via WebEx)
Mike Beebe	Denton
Mike Salloum	Denton
Craig Morgan	Denton
Takeshi Korenori	Japan/MLIT (via WebEx)
Kiyohiko Hirakawa	Japan/MLIT (via WebEx)
Koshiro Ono	Japan/JARI
Yoshihisa Tsuburai	JASIC (via WebEx)
Takeshi Harigae	Japan/JARI (via WebEx)
Jack Jensen	General Motors
Suzanne Tylko	Transport Canada
Keiji Hatano	Nissan (via WebEx)
Akihiko Akiyama	Honda (via WebEx)
Audrey Petitjean	CEESAR/France (via WebEx)
Philippe Petit	LAB PSA – Renault
Annette Irwin	GM
Michael Cuson	VW
Lan Xi	Chrysler
Srini Sundararajan	Ford
Scott Schmidt	Alliance (via WebEx)
Mark Terrell	
Ken Wiley	Dynamic Research Inc. (via WebEx)
Karsten Hallbauer	Takata (via WebEx)