

**ISO/TC173/SC1/WG6**  
**Wheelchair Tie-down and Occupant Restraints/Transportable W/Cs**  
**DRAFT MEETING MINUTES**  
**22-23 October 2014, London, United Kingdom**  
Convenor: Aleid Hekstra, Netherlands

**1. Opening and Organization (Hekstra)**

1.1 *Welcome and facility/housekeeping overview*  
Aleid welcomed everyone to the meeting.

1.2 *Participant roll call*

Attendees - Participants: Aleid Hekstra (NL), Miriam Manary (US), Don Griggs (US), Larry Schneider (US), Yvonne Duncan (AU), John Tiernan (IE), Sebastian Nikula (SE), Nisse Duwahl (SE), Patrick Girardin (US), Gerit Bruns (DE), Bob Appleyard (UK), Claus Dahl Pedersen (DK), and (by phone) Robert Bingham (AU).

Attendees – Observers: Victoria Hodgkinson-Gibbs (UK), Peter Scullion (UK), and (by phone) Nichole Orton (US).

1.3 *Numbering of documents*

The following documents were numbered for this meeting:

632 Minutes from the Metz meeting  
633 Agenda for London 2014 meeting  
634 Voting documents of Annex XX, YY, and ZZ  
635 Voting results of 7176-19 Annex G  
636 Voting results of 10542-1 Annex XX  
637 Voting results of 10542-1 Annex YY  
638 Voting results of 10542-1 Annex ZZ  
639 Voting results of 16840-4 Systematic Review  
640 Presentation from Q'Straint on EU Type Approval  
641 EU-directive 214 Annex 3 on wheelchair accessible vehicles  
642 CEN standard EN12183/84 transport related clauses

1.4 *Review/acceptance of minutes from Metz meeting May 2014*

Comments were submitted on the draft minutes shortly after circulation and a new version (v2) was created. The modified minutes were accepted as the minutes of the last meeting.

1.5 *Review/acceptance of agenda for this meeting*

The proposed agenda was accepted with the addition of a discussion item on ATD type.

## 1.6 Status of WG6 work and goals for this meeting

Aleid presented the following table of active documents:

level	title	task	person	Doc	notes
DIS	7176-19-G		Manary	635	(tell ISO by Dec 15th, FDIS by April 2015)
NWI	10542-1-XX	review NWI	Appleyard	638	
PWI	10542-1-YY	review NWI	Schneider	637	
NWI	10542-1-ZZ	review NWI	Schneider	636	
IS	16840-4	review PReview	(Bertocci)	639	
DIS	10865-2	review DIS2/FDIS	Roosmalen	625/ 632	
PWI	TR AugSWC	discuss	Appleyard	----	
PWI	10542-1	Load limit	Appleyard	----	
---	10542-1	harmonize	Gibbs	---	
---	----	education	All	---	
---	----	Risk mgmt	Appleyard		

Aleid described the hierarchy and workings of the ISO TC173/SC1/WG6. There are two ways we can undertake new work: 1) either a country issues a NWI proposal and it comes to WG6 or, 2) we can initiate work from within our group. Voting on a NWIP occurs among all ISO P-Members. If accepted, work on any document happens on a 3- or 4 -year time schedule. Within that schedule, about 8 months out of the time allowed is taken up by voting. The deadlines are very strict. National standards bodies nominate the expert participants and each is expected to contribute. Every comment submitted on a document during the voting process is recorded and addressed. Aleid prefers that we gain consensus within our group before initiating the NWIP voting process.

## 2. Status Report on on-going matters and assignments arising from previous meeting

### 2.1 Status report standards/guideline developments in participating countries (all)

*Australia*(Yvonne)– Australia recently harmonized their WTORS standard to ISO 10542-1. Some users have expressed that important details were lost on upper shoulder anchor points and head clearance that existed in the previous document.

*Denmark* (Claus) –Seeing lots of activity on new EU type approval process that goes into effect next week. EU directive 2007/46/EC as amended by 214/2014(Annex XI) for Special Purpose Vehicles (including Wheelchair Accessible Vehicles or WAVs) requires that WC and occupant restraint anchorage points must be in vehicle pull tested to ECE reg 14. The WTORS used must meet ISO 10542-1:2012. The DK industry is moving in this direction. In Denmark vehicles of class M1 has had 4 point tiedown requirements since 1999 and for M2 vehicles since 2001.

*Germany* (Gerit) – There has been work on testing the upper anchorage point in the vehicle. He can confirm Claus experiences in Denmark. The German 75078 part 2 (the kraftknoten) is still part of the DIN standard but

they are using the ISO dynamic crash pulse now. At the next DIN meeting they will discuss vehicle-anchored head-and-back restraint. Germany voted late on some of the 10542-1 informative annexes but he can share the results and comments from DIN during this meeting when we discuss the comments in detail.

*Ireland* (John) – Ciaran and John will be involved in our work. MAI student Killian O'Brien worked on this topic for his project on restraint systems for passengers seated in wheelchairs, but didn't make it as far as load-limiting seat belts. He used computer simulation to conclude that increasing the angle of the seat to be more like the angles of automotive seats reduces the seat-belt loads on the abdomen, which are much higher than for loads on the abdomen produced automotive seat-belt loads on passengers in vehicle seats. Increasing the seat angle increases the effective restraint force provided by the seat on the occupant, so the seat belt has to do less work and this reduces loading on the abdomen. The results to date suggest that there is a significant benefit of steeper seat-pan angles for midsize and large males, but the benefit is not so clear for the small female, as the peak abdominal loads did not change significantly for this size occupant. He also investigated the effects of tilt seating systems, but found that titling the seat did not seem to be beneficial overall, and, for tilt angles in excess of 20°, the simulated occupant ATD was not stable in the seat in a frontal impact. It does seem clear that some form of load limiting in the belts would be appropriate (as Linda van Roosmaalen had found in her Ph.D. thesis), but Killian does not yet have any findings on this issue yet. Ciaran Simms can provide more information, upon request

*Netherlands* (Aleid)–Little activity to report. NL is working on an upgrade on a guidelines document on wheelchair tiedowns. There have been discussions about refusing transport for people who are not in a part 19 wheelchairs. Gerit asked if Aleid is the key person for the Dutch vote since he got a question about who votes for Netherlands. Aleid usually abstains due to her role as convenor.

*Sweden* (Nisse)–A new National work item under the SIS has begun on provisions for M1 Category wheelchair-accessible vehicles based on the previous work conducted under TC22, which includes taxis. The Swedes are hoping to wrap up this work by end of 2015. The Swedish transport authority is interpreting the new EU directive as imposing a limit on the mass of wheelchair+occupant in taxis and buses to 260 kg for power wheelchairs and 160 kg for manual wheelchairs. The group expressed the belief that the original intent of this part of the EU directive was focused on the weight capacity of the vehicle. Claus noted that this is a minimum payload for the vehicle. Victoria pointed out that all vehicles have a payload limit which is addressed in paragraphs of 214/2014/EU that amends Annex XI of the Directive with an assumed mass for wheelchair of 85kg and occupant at 75kg.

*UK* (Bob) –MHRA has withdrawn its guidance document on the Transport of Occupied Wheelchairs (DB2003) and now refer to PMG BPGs. It was noted that also within 214/2014/EC there are new specifications for wheelchair back-support strength for rear-facing wheelchair spaces in M1 vehicles for M2 and M3 buses becomes effective Oct 29<sup>th</sup> 2014. The provisions of Annex 8 of UNECE Regulation 107 form the basis for the requirements for M2 and M3 vehicle Type Approval. Equality of provision of services, especially of the nature of occupant protection, is an issue. The common means of occupant restraint for wheelchair-seated and vehicle-seated passengers is coming into effect and may end floor-mounted shoulder belts. Scooters on vehicles are an issue in ATVSS. There might be enforced limits on scooter masses and dimensions, as

recommendations are currently in place. In the WAVCA (Wheelchair Accessible Vehicle Converters Association) sponsored BSI PAS 2014 document, there is an assumed maximum wheelchair mass limit of 85kg. The PAS 2012 document produced by WAVCA is applied to M1 vehicles and is meant to supplement the requirements for vehicle Type Approval. It was out for public comment, with the comment period closing in September. The original version of the document was published in 2012 and, following the BSI process, has to be reviewed every 2 years. A new revision is planned for the first quarter of 2015 from WAVCA. This document is an industry guideline specification. It is used in the UK only and is gaining in popularity. It gives manufacturers a chance to test vehicles intended to carry wheelchairs with masses greater than 85kg. PAS 2012 provides a methodology to test claims of higher wheelchair mass capability. Gerit noted that this approach is unique to the UK since real-world data do not support that there is a strength issue for WTORS or their anchorages when tested to the dynamic test of 10542-1. Bob said that perhaps this approach should only be considered for wheelchairs that are of significantly higher mass than 85kg, following the principles of normal automotive “bench mark” testing. Gerit also noted that the UK has the largest market in Europe, so it can bear the cost of extra standards. In Germany, there is a smaller volume of modified vehicles with some modifiers only doing 20 vehicles per year. These small volume operations cannot handle the additional costs associated with compliance. Claus noted that there is a static pull test for the vehicle anchorages in 240/2014/EC that represents higher loading levels associated with a 125-kg wheelchair. This is a change from the previous approach.

*US (Miriam) –* The US work is led by the RESNA Committee on Wheelchairs and Transportation (COWHAT). The recent work has focused on a revision of the 2012 version of wheelchair standards. In addition to developing and revisions the US voluntary wheelchair standards, members of COWHAT also vote on ISO documents and provide input to the US Access Board on proposed ADA revisions to transportation guidelines. UMTRI is conducting NHTSA-funded research focusing on issues for people who drive while seated in their wheelchairs. UMTRI will soon host a new website that will include helpful information on commercial products that comply with the US standards. UMTRI also collects and analyses injury events that happen to people seated in wheelchairs while in vehicles. Nisse mentioned a fatality that resulted from a modified WTORS installation where the anchor point was moved. In Sweden, the person held responsible was the driver who really had nothing to do with the installation.

John expressed a view – that he has brought to the attention of the Irish Competent Authority, the HPRA – that adaptations to vehicles to accommodate wheelchairs ought to come under the provisions of the European Medical Devices Directive. Under the directive an “accessory” to a medical device must be treated as a medical device in its own right. It would seem apparent that a WTORS is an accessory to a wheelchair, intended to promote occupant safety in a vehicle. If it is agreed that this is the case, then the WTORS and associated adaptations ought to be considered as medical devices in their own right, and thus come under the remit of the national competent authorities and meet the requirements of the MDD with respect to design and use – and thus, presumably equivalent FDA, TGA, and similar requirements elsewhere in the world.

#### MDD ‘Medical Device’ and ‘Accessory’ Definitions:

‘medical device’ means any instrument, apparatus, appliance, material or other article, whether used alone or in combination, including the software necessary for its proper application intended by the manufacturer to be used for human beings for the purpose of:  
— diagnosis, prevention, monitoring, treatment or alleviation of disease,

— diagnosis, monitoring, treatment, alleviation of or compensation for an injury or handicap,  
— investigation, replacement or modification of the anatomy or of a physiological process,  
— control of conception,  
and which does not achieve its principal intended action in or on the human body by  
pharmacological,  
immunological or metabolic means, but which may be assisted in its function by such means;

'accessory' means an article which whilst not being a device is intended specifically by its manufacturer to be used together with a device to enable it to be used in accordance with the use of the device intended by the manufacturer of the device;

Nisse mentioned that, during traffic stops, police will check to see if people seating in vehicle seats are properly restrained, but they do not check this for people seated in wheelchairs. He feels this is inappropriate. He added that Permobil only finds out that a motor vehicle crash (MVC) involving an occupant seated in one of their wheelchairs has happened from media outlets and he thinks that there should be a more official and robust reporting system.

## 2.2 *Liaison with other committees*

No discussion.

## 2.3 *Collaboration with CEN*

A new version of EN 12183 (for manual WCs) and 12184 (for powered WCs) has replaced the 2009 version. Both reference Part 19 but also make amendments to some of the requirements on head restraints and specifically negate the UDIG requirement. Aleid can provide a comparison, if needed. Gerit said that they are using these regulations in Germany to prohibit access to transportation. Bob said there is a National Foreword added to both EN12183 and EN12184 that is aimed to draw attention to the interest to improve transportation safety for children under 22 kg seated in wheelchairs.

## 2.4 *Update on ECE Regulations Geneva*

No discussion.

## 2.5 *Website and list serve*

All documents from WG6 appear on the ISO website. They are posted and can be downloaded. If this is not working for you, let Aleid know. The minutes and agenda also sometimes go through the WG6 listserve. Let Miriam or Aleid know if you want to be added. Claus and Peter indicated that they would like to be added to the listserve. A discussion about how to be recognized by your national body ensued. Participants shared how they ensure that their national voting represents the viewpoints of a broad range of stakeholders and to prevent spurious comments that can be taken as a National position.

## **3. Research results- no discussion**

## **4. Assigned work PWI/NWI and strategy**

### *4.1 ISO 10865 Series Issues*

10865-2 DIS voting in 2013 raised a concern about the lack of facilities to conduct the dynamic test methods described in the standard. At the fall 2013 WG6 meeting, there was a desire expressed to add a simpler quasi-static method but little progress has been made on it. The group decided to allow Larry/Linda to add other test methods and to circulate the document for a second DIS ballot, but this must be done by December 1<sup>st</sup>. Otherwise the group agreed that 10865-2 will go out for the FDIS ballot at early in 2015.

Victoria and Bob noted that it is hard to relate static and dynamic loads, although test loads for wheelchair containment and occupant retention are low in 10865-2. It was noted that 10865-1 does set a precedent for using the static-loading method.

#### 4.2 ISO 16840-4 Issues

Systematic review (WG6-639)

A systematic review of 16840-4 was conducted earlier in 2014. Aleid reviewed the results of the International vote, which indicate that the majority of P-Members confirm the document but a few regularly participating members voted to revise. The group looked through the comments submitted and acknowledged there were some worthy of further consideration. However, due to the current WG6 workload, the group decided to confirm the standard at this time.

#### 4.3 ISO 7176-19 Issues

Annex G: Amendment-1DIS-vote results and actions (WG6-635);

Miriam went through the technical comments submitted from the voting on 7176-19 Annex G and the group discussed each of these. Based on the discussion from the group, Miriam will fill in the comment table and produce a new version of the document. John, Bob, and Nicole volunteered to review the new document. The group agreed that the revised document can proceed to FDIS voting early in 2015.

7176-19: Systematic Review Issues:

The group reviewed the issues raised in the systematic review from 2011. Bob distributed a table of collated comments. The group decided to pursue the following topics further:

- Incorporation of children 13/15kg – 22kg
- change of “load carrying” to “occupant load carrying”
- change of “signs of failure” to “complete failure”
- a more constrained securement point geometry, possibly closer to WC19
- the addition integrated lap belt
- a compliance logo to supplement or replace words
- revision of Annex D
- assess the dimensions of real-world wheelchair spaces (like 1220, 1250, 1300 mm, etc)
- assess side-view securement point zones
- review and update terminology
- reassess UDIG to make it informative or delete
- add a note to encourage testing with docking systems when possible and appropriate. Add labelling note about docking, too.
- consider putting test configuration info into pre-test literature.
- adding instructions on how to isolate wheelchair power. Group decided to ask WG10 to take this up, instead of adding to 7176-19.
- Enhance options to test with a surrogate tiedown and provide instructions on how to use those. Don't require heavy wheelchairs to use SWC.
- Checking clarity of text on A.3.1 i) .
- Checking comments on negative/positive acceleration/deceleration.
- Specify how to adjust the head support, if provided, as best you can.
- See if comment on Annex D tiedown issues can be incorporated into Annex C
- ATD type consider if we should remain with Hybrid III or allow other types.

#### 4.4 ISO 10542-1 Issues:

Working documents and NWI proposals for all three Informative annexes (XX, YY, and ZZ) were balloted since the last meeting. All passed based on the numbers of positive votes (approval by the majority of P members voting) but ISO requires 5 countries to offer experts to take part in the work of each annex. The working group therefore agreed that all three annexes should be accepted as new work items (NWIs) and that we need to ask the remaining countries that voted “yes,” such as the UK, NL, and Norway, to offer an expert for each annex.

The working group requested the help of ISO administration with a rogue undefined project entry that has appeared on the project portal, a new project was initiated on 2014-07-15 called “ISO/NP 10542-1” that has not been requested by WG6. No one knows how this project was initiated and the Working Group would like clarification.

Another change in the ISO voting rules is that you have to give a justification in the form of comments for “yes” and “no” votes.

The Working Group discussed the comments received on the three 10542-1 annexes, as described below:

- Annex ZZ - Vehicle-anchored back+head restraints (Schneider, WG6 #636)

The group discussed the voting comments and made the following main points:

- General - A UK comment suggested that a vehicle mounted head back restraint is part of the vehicle and outside of the scope of 10542. Larry disagreed and said that all WTORS are mounted to vehicles. EU participants noted that in-vehicle testing is a typical approach in Europe. Miriam noted that to develop and do basic testing of hardware, you need a single test. Aleid thinks this comment is not suggesting that the work is inappropriate but that the wording in some areas need to be changed to include head/back restraint, like adding/amending definitions for head-and-back restraint. The group agreed to reject the first paragraph of the comment but to consider the rest of the comment.
- General –The UK commented on whether surrogate devices (like the SWCB) should be more completely specified in a standard or if it is acceptable for them to be specified in a separate standard. Detailed CAD drawings are available for free but they are not included in the standard. However, 10542-1 includes key specifications for the SWC in Annex E and 16840-4 includes the specifications for the SWCB in Annex B. The group noted that, as surrogate devices are updated, it is helpful if their specifications only occur in one document and then other documents refer to that document. The comment and other similar comments were therefore not accepted.
- ZZ 5.3.1g - This comment is on 1300 mm fore/aft spacing and the dimensions for lateral spacing of tiedown anchorages. There is a request to better specify and harmonize the tiedown anchorage geometry with testing specified in other relevant standards.. Bob noted that there is a similar comment submitted for Annex XX. The UK suggests rejecting the comment and going with what is in the standard. People around the table think that the dimension is too narrow for the lateral spacing of the rear

tiedown anchorages. Larry said these numbers come from typical test setups with the SWCB set to an appropriate width for the midsize-male ATD. Bob thinks real world setups can often be significantly narrower and space is sometimes very constrained. The UK wants to know webbing lengths for a setup using a surrogate tiedown. The Working Group decided to try to harmonize with 16840-4 test-setup dimensions.

- The group decided to reorder the ZZ.4b to allow a design requirement for head restraint removal/detachment when it is critical to user comfort or medical needs. Larry suggested language like “it may be desirable to remove a wheelchair-anchored head support from the wheelchair,” or similar wording.
- The group is concerned about the injury risk associated with vehicle-mounted head restraints without back restraints. Need to add language to design guidelines to support this concern.
- The group discussed that people seated in wheelchairs that meet the requirements of 7176-19 Annex G (more likely power and paediatric wheelchairs) would not need to use a vehicle-mounted head-and-back restraint, but people in other wheelchairs (manual and those for higher activity users) would benefit from the vehicle-mounted systems.
- The group supports aligning the rearward back-support rotation requirements with those specified in 7176-19 Annex G, where possible
- The group agreed to eliminate redundancy in flammability requirements.
- The US comments includes a question of how the energy absorption test is conducted to include the idea of only testing contact-able surfaces. The WTORS manufacturer may be developing a product without knowing the details of the vehicle interior. Victoria wants the requirement to stay but to be clearer. Claus is concerned with injurious contact by neighbouring occupants. The comment was rejected.
- The group accepted a comment to remove the “front” from “front stabilizer” to allow for other stabilizer designs and locations.
- The group accepted the US comment to add a rear-impact performance criterion of not allowing any sharp edges after the test.
- The group accepted the US comment to remove flammability from ZZ7.1 n) because it is covered on ZZ7.2.
- The group thinks that energy dissipation reporting should be added to a new section ZZ 7.3.
- The Germans comments that they would like to test head-and-back restraints unoccupied instead of the test in this Annex to follow general seat requirements for M1 Category vehicle seats given in UNECE Reg. 17. They are concerned that some people will want to apply the seat-testing criteria to vehicle-anchored head-and-back restraints for people seated in wheelchairs. However, this approach does not fulfil the occupant-safety objectives for this annex. Following reviews of the definition of a “seat” given in ENECE Reg. 17, Germany suggested the addition of a sentence to note that vehicle-anchored head-and-back restraints are not intended to function as vehicle seats.
- Denmark would like the group to consider a wider range of ATD types to part ZZ. The group decides that the head-to-torso requirement demands the use of the Hybrid III ATD.

- Group agreed that, once the comments are addressed and the document is revised, it can be circulated as a CD draft. An editing committee that includes Larry, Victoria, Gerit, and Bob was established. The new draft should be submitted to Aleid by January 16, 2015..
- Annex YY - WC-anchored belt (Schneider, WG6-637)
  - The Germans like and support the idea of testing with a SWC-anchored lap belt in 10542-1.
  - The Germans would like to allow the use of their current system “kraftnoten.” If pin bushing is mentioned specifically, then they would like to also specifically refer to tongue and buckle. The German comment was accepted. The surrogate shoulder belt that will be specified will allow for both pin-bushing and buckle-tongue connections between the lap and shoulder belt.
  - The UK commented that 10542-1 defines a 4-point strap tiedown using wording that suggests that only 4 straps are allowed. The concern is that interpretation of design requirements in the process of legislated Type Approval could restrict the use of multiple pairs of rear tiedown straps.. The commenters would like to allow for the possibility of using additional rear tiedown straps, as is sometimes the practice with higher mass wheelchairs, or in vehicles that may carry either a powered or a manual wheelchair, depending on user requirements. The proposed wording change to the definition of “four-point, strap-type tiedown” is “four or more.” Larry disagreed and would rather have a note under the definition to clarify that it is allowed to use more than four tiedowns straps to secure heavy wheelchairs and/or wheelchair with wheelchair-anchored lap-belt restraints. Aleid is concerned that, if we change the definition in 10542-1, there will be a disconnect with the other standards. Aleid favours the note solution. Bob thinks this would satisfy the commenter, but will seek confirmation. However, the comment was accepted in principle.
  - UK and US comments encourage addition of more drawings of the surrogate restraint system to the annex. Larry said there can be more illustrative drawings but not engineering drawings. The comment was accepted in principle.
  - A UK comment suggests having the entire test preparation procedure in one place. The group agreed to try to consolidate to fewer documents, where possible, so that someone running the test has more of the protocol in one place.
  - There is a suggestion to add the foot-strap to Annex A of 10542-1. This was accepted by group.
  - The group would like to revisit labelling issues both for higher-capacity tiedowns specifically and overall for a crash-tested logo. Need to consult with Thorsten to refresh this effort. Nisse, Sebastian, Victoria, Claus, Thorston, Miriam, and Aleid will work on this.
  - US commented that we should allow testing in Annex YY using any test wheelchair (i.e., a SWM), in addition to using the SWC. This would allow for “systems testing” and would be consistent across the 10542-1. Nichole pointed out that this condition would already be tested in its expected usage modes of WTORS under Annex A, so the test protocol in Annex YY

- should just be for general-use WTORS, not model-specific WTORS. The comment was rejected.
  - A US comment suggests the terminology of “impact sled” and “impact simulator” should be checked. The group checked text and definitions and found no problems, so the comment was not accepted.
  - The group decided that only “complete failure” will be considered a failure in Annex YY testing, instead of “signs of failure” as currently specified in Annex A testing in 10542-1.
  - The harmonization of a lap-to-shoulder interface needs to be done in a separate work item. The group believes that we should request a PWI on this issue at the next SC1 meeting in Denmark in May 2014.
  - The group decided that it is appropriate to address these comments and develop a new draft of Annex YY that will be put forward as a CD. The target date for submission to Allied is January 16. The editorial committee will include Larry, Gerit, Claus, and Bob.
- Annex XX - Rear impact annex - tiedowns (Appleyard, WG6-638)
  - The group reviewed the comments submitted on 10542-1 Annex XX.
    - Comment on broken and unbroken arrows. This comment was accepted and the figure will be fixed.
    - Comments on labelling and consolidating the test methods will be addressed in the same manner as in YY and ZZ.
    - Several editorial comments on missing words and typos. These were accepted and corrections will be made.
    - One comment addresses how to list the results in the report. The group would like to have separate test report requirements that are all contained within the annex, rather than including them in the test-report requirements listed in 7.0 of 10542-1. Also, the wording that is being suggested for addition as 7.6 of 10542-1 suggests that there is just one report with all the results when there may be multiple reports. Performance criteria for the wheelchair when testing with an SWM need to be added. If an SWM is used, then there should be a description of the SWM in the report and pass/fail criteria from 7176/19 Annex G should be included.
    - The text that has been added to the main body of 10542-1 as section 5.3 suggests that the rear-impact test of tiedown/securement systems is a requirement when, in fact, the test is informative and therefore optional. In part 19, tests that are not required are included as a note. We need to check to see the correct way to handle reference to the informative performance tests of annexes XX, YY, and ZZ..
    - The group agreed that we should substitute “should” for “shall” throughout Annex XX because it is informative.
    - The group agreed to add that tiedown anchorages cannot detach or fail. This should be added as a performance criterion.
    - The test setup should include standard lengths or requirements for tiedown straps and these should be aligned with the setup procedures in annex A of 10542-1.
    - The group agreed to move Annex XX to the CD level and circulate it for vote after incorporating the changes associated

with these comments. The new version of the document needs to be delivered to Aleid by January 16, 2015. The editorial group includes Bob, Miriam, Larry, Victoria, and Claus.

- Other issues (not discussed separately)
  - EU-Type Approval related attention points
  - Usability
  - Lap-to-shoulder belt connection
  - Stronger tiedowns
  - Load-limiting occupant restraints (PWI)
  - Risk-management language

4.5 Technical report on Augmented Mass for SWC (Appleyard) – Bob will check on this and present an updated document to Aleid in conjunction with the three Informative Annexes to 10542, being mid January 2015.

4.6 Standards research and development resources (All)

4.7 7176-26 Vocabulary Update (Hekstra) – no update available.

## **5. Other business**

The group wants to make a plan for revision and reviewing 10542-1. We have notes from previous meeting minutes that are relevant. Aleid will gather this info and circulate to the group for discussion at upcoming meetings.

## **6. Next meeting plans**

Spring 2015 (May) – Copenhagen

TC will be held on May 21, an initial plan is to hold WG1/WG6 on 22/23 or 26/27, and SC1 on 25. However, because this time frame overlaps Pentecost and the US Memorial Day, there is a request to move the set of meeting days to end on May 21, like May 14-21.

Fall 2015 – Japan?

Spring 2016 – Koln?

Fall 2016 - Brazil

## **7. Adjournment**

The meeting was adjourned at 4:10 pm on Thursday, May 23. Aleid thanked everyone for his or her participation.