**EVS-gtr IG-TF4 proposals for amending the current evs-gtr draft (16.09.2014**

EVS-06-04e

Post crash safety

5.2.2. Protection against electric shock

After the crash test at least one of the four criteria specified in paragraphs 5.2.2.1.to 5.2.2.4. shall be met.

If the vehicle has an automatic disconnect function, or device(s) that conductively divide the electric power train circuit during driving condition, at least one of the following criteria shall apply to the disconnected circuit or to each divided circuit individually after the disconnect function is activated.

However criteria defined in paragraph 5.2.2.4. shall not apply if more than a single potential of a part of the high voltage bus are not protected under the conditions of protection IPXXB.

In the case that the crash test is performed under the condition that part(s) of the high voltage system are not energized **– and with the exception of any coupling system for charging the REESS which is not energized during driving condition -** the protection against electric shock shall be proved by either paragraph 5.2.2.3. or paragraph 5.2.2.4. for the relevant part(s).

Justification

In the case that the high voltage system(s) is designed to be energized during driving condition, but such high voltage system(s) is not energized during the test due to any modification for test condition and/or measurement, judgment for compliance with electrical shock protection requirements by using the criteria prescribed in paragraph 5.2.2.1 (i.e. absence of high voltage) or paragraph 5.2.2.2 (i.e. low electrical energy) is inappropriate. Due to this, current GTR draft includes the restriction in paragraph 5.2.2. as following;

*In the case that the test is performed under the condition that part(s) of the high voltage system are not energized, the protection against electrical shock shall be proved by either paragraph 5.2.2.3. or paragraph 5.2.2.4. for the relevant part(s).*

On the other hand, for the coupling system for charging the RESS in electric vehicle or plug-in hybrid electric vehicle, which is not designed to be energized during driving condition, such coupling system is not energized during and after the crash. In this case, if the coupling system can meet with either requirement prescribed in paragraph 5.2.2.1 and paragraph 5.2.2.2, protection against electrical shock which is the purpose of paragraph 5.2.2 is ensured.