

Contracting Party: Republic of Korea

No.	Question	Yes	No
1	Do you agree on having a numerical simulation process for HIT in the amendment?	<input type="radio"/>	
2	Do you agree that the headform test area must be defined with an un-deployed hood?	<input type="radio"/>	
3	Do you agree on the usage of PDI-2 to verify the sensing/deployment performance of DPPS?	<input type="radio"/>	
4	Do you agree that the amendment has to require the activation of DPPS at higher speed than the current legform impact speed (40km/h)?		<input type="radio"/>
5	Do you agree that the amendment has to require the protection criteria or standard with deflected or collapsed hood due to body loading?	<input type="radio"/> ¹	
6	Do you agree that the amendment has to require specific locations and the number of tests for verifying the deployment performance of DPPS?		<input type="radio"/>
7	Do you agree on having the sensing area definition in the amendment?		<input type="radio"/> ²

1. Since we use only a headform when we conduct the head test, whether the deployable bonnet is collapsed or deflected by the body loading of pedestrians or not cannot be verified. Therefore, requiring protection with deflected bonnet due to body loading in the regulation is deeply considerable (there are some cars with deployable hood not maintaining the deployment height in the market). Korea basically agrees on the protection requirement with collapsed hood by body loading; however, disagree on the protection requirement with deflected hood by body loading unless a rationale to back up the requirement is provided.
2. The idea makes sense. However, the concept of independent test areas for the head and leg in the current regulation and the definition of leg test area in the GTR No.9 ph.2 (new bumper corner definition) should be discussed for the justification of the introduction of the sensing area definition.

Contracting Party: Germany

No.	Question	Yes	No
1	Do you agree on having a numerical simulation process for HIT in the amendment? *1)	<input type="radio"/>	
2	Do you agree that the headform test area must be defined with an un-deployed hood? *2)	<input type="radio"/>	
3	Do you agree on the usage of PDI-2 to verify the sensing/deployment performance of DPPS? *3)	<input type="radio"/>	
4	Do you agree that the amendment has to require the activation of DPPS at higher speed than the current legform impact speed (40km/h)? *4)		
5	Do you agree that the amendment has to require the protection criteria or standard with deflected or collapsed hood due to body loading? *5)		
6	Do you agree that the amendment has to require specific locations and the number of tests for verifying the deployment performance of DPPS? *6)		
7	Do you agree on having the sensing area definition in the amendment?	<input type="radio"/>	

*1) Determination of HIT based on either of the following tools:

- HBM simulation
- Physical dummy tests
- Generic values from e.g. vehicle categorization

*2) No preference. However, for harmonization purposes with consumer information (Euro NCAP) however, undeployed bonnet seems most appropriate.

- *3) Pedestrian surrogate needs to cover lowest signals of entire pedestrian family. No development other than PDI-2 currently available. However, PDI-2 sometimes too conservative. When abstaining from PDI-2, manufacturer should be given the opportunity to demonstrate what is the HTD.
- *4) The benefit of an initiated deployment of the active bonnet without any further requirement is unclear. Any requirement must not be counterproductive, increasing the loading on the head.
- *5) During testing, ensure clearance that is also provided during actual accident scenario.
- *6) It is not fully understood what is the deployment performance: TRT? HIC Results of headform tests? Sensing system?

Contracting Party: the United States of America

No.	Question	NHTSA
1	Do you agree on having a numerical simulation process for HIT in the amendment?	<p>Maybe. We need to evaluate the numerical simulation to determine if it's suitable for compliance.</p> <p>We also need to examine actual mfg. dossiers submitted to Euro NCAP and TA authorities to arrive at good approximations for HIT.</p>
2	Do you agree that the headform test area must be defined with an un-deployed hood?	Need to investigate to determine if the geometry of a deployed hood changes the HIC zones significantly.
3	Do you agree on the usage of PDI-2 to verify the sensing/deployment performance of DPPS?	<p>Need to have a better understanding of PDI-2 specification.</p> <p>NHTSA has no experience with the use of these devices, but we would be in favor of using a device that is most conservative (i.e., assures the hood will actually pop-up, but may result false positives).</p>
4	Do you agree that the amendment has to require the activation of DPPS at higher speed than the current legform impact speed (40km/h)?	<p>What is the rationale for 50km/h (why not 45 km/h or other limits?), do we have similar requirements for other vehicle components such as airbags?</p> <p>We need to fully understand the purpose of this requirement.</p>

5	Do you agree that the amendment has to require the protection criteria or standard with deflected or collapsed hood due to body loading?	<p>Is this a physical test or a numerical test?</p> <p>Can body loading collapse the hood or deform the hood significantly or cause other unintended hazards?</p> <p>Maybe. More research is needed to fully understand how “body loading” affects the head impact force. Also, the body can absorb some of the impact force.</p>
6	Do you agree that the amendment has to require specific locations and the number of tests for verifying the deployment performance of DPPS?	<p>The test authority (NHTSA in our case) can test at any location (within an objectively determined test area), not just one or two pre-determined locations. Thus, every point within the test area needs to be self-certified by the mfg.</p> <p>Defining specific locations and number of tests is not necessary.</p> <p>A clear definition for “testable area” on the bumper is needed.</p>
7	Do you agree on having the sensing area definition in the amendment?	<p>Yes</p>

Contracting Party: European Commission (for EU)

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¹ Not against use of PDI-2 in general, but signal may be too low in some cases. This needs to be further supported.

² Yes, but this should be a pragmatic 'reduction' of deployment based on e.g. static load test.

Contracting Party: Japan

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* The system activation shall be confirmed at the center line of the vehicle and at the outer boundary of the sensing area. In case when a different location is identified for the hardest detection of a pedestrian impact, the location may be additionally tested.