

The secretariat, with this document, is informing the GRRF delegates about the comments received on GRRF-84-02 from Tesla (not "part" of OICA).

"Comments Related to the informal document GRRF-84-02 submitted by IWG:

1. Tesla disagrees with the proposal draft of paragraph 5.6.4.2.3, as stated:

"The system shall only be activated (standby mode) after a deliberate action by the driver. Activation by the driver shall only be possible on roads where pedestrians and cyclists are prohibited and which, by design, are equipped with a physical separation that divides the traffic moving in opposite directions and which have at least two lanes in the direction the vehicles are driving. These conditions shall be ensured by the use of at least two independent means."

This requirement is arbitrary, limiting on technology, and not based on functional performance of the Category [C1] system. Tesla recommends this section be removed or, in the alternative, replaced with a functional test for the detection and respond to pedestrians, cyclists, and oncoming traffic without physical separation.

2. Tesla recommends removal of paragraph 5.6.4.7 through 5.6.4.8. These paragraphs relate to detection of a "critical situation" and would define a requirement for rear detection of approach vehicles. However, Category [C1] contemplates a driver-initiated, automated lane change. As such, the driver is obligated to determine the approaching traffic and when a lane change is safe to perform. Indeed, Tesla has offered this feature in vehicles with our Autosteer system since 2015 and is unaware of any use resulting in collision or injury caused during a lane change manoeuvre. This requirement, if accepted, should be limited to Category [E] systems, where the human driver is not obligated to participate and initiate the lane change manoeuvre.
3. In addition to altering paragraph 5.6.4.7 through 5.6.4.8 to apply to Category [D], Tesla recommends amending proposed paragraph 5.6.4.7, which currently states:

Critical situation. A situation is deemed to be critical when, at the time a lane change manoeuvre starts, an approaching vehicle in the target lane would have to decelerate at 3m/s^2 [0.0 or 1.2] seconds after the lane change manoeuvre has started, to ensure the distance between the two vehicles is never less than that the ACSF vehicle travels in [1] second.

For the purpose of this requirement, it is assumed that the maximum speed of the approaching vehicle (V_{rear}) is 130km/h, and that the ACSF vehicle speed is constant.

We recommend the manoeuvre starting point be made into an objective requirement based on the potential kinematic interaction with the approaching vehicle by replacing "at the time a lane change manoeuvre starts" with "at the time the ACSF vehicle first contacts the inside edge of the lane line".

In addition, we recommend amending the assumption that the ACSF vehicle speed is constant because, in routine driving, a human driver would accelerate during a lane change to reduce the approaching vehicle speed differential and provide more time to adequately change lanes. ACSF vehicles should have the same capability or at least allow for it.

Therefore, we recommend removing "and that the ACSF vehicle speed is constant". We also believe that the speed should be based on the measured speed difference between the ACSF vehicle and V_{rear} . However, as a matter of capability for determining minimum performance, we recommend replacing "it is assumed that the maximum speed of the approaching vehicle (v_{rear}) is 130km/h" with "it is assumed that the maximum speed difference is 100 km/h."

4. Tesla recommends several amendments to proposed paragraph 5.6.4.8.1, which states:

The ACSF of Category [C1] shall be able to detect vehicles approaching from the rear in an adjacent lane up to a distance S_{rear} as specified below:

The minimum distance S_{rear} shall be declared by the vehicle manufacturer. The declared value shall not be less than 55m.

The declared distance shall be tested according to the relevant test in Annex 8 using a two-wheeled motor vehicle of Category L3 as the approaching vehicle. */

In sentence 1, we recommend amending “an adjacent lane” to “a straight adjacent lane” to clarify that the lane measured against should be straight.

In sentence 3, we recommend adding at the end “in the center of the lane” to clarify the position of the ACSF vehicle in the test to be performed.

In sentence 8, as proposed “ $V_{app} = 36.1$ m/s (Speed of the approaching vehicle = 130 km/h),” we recommend replacing the fixed value of 36.1 m/s to “27.8 m/s (Speed of the approaching vehicle = 100 km/h)” because, as suggested above, this requirement should account for the ability of the ACSF vehicle to accelerate in a lane change.

5. Tesla recommends amendment to proposed [paragraph 5.6.4.8.2](#), which currently contemplates a Figure for minimum detection area rearward of a fixed point at the corner of the vehicle. We recommend that this area be behind the “reference H point for the driver” or other similar reference point comparable to the human driver to detect objects in the traditional blind spot.
6. Tesla recommends amendment to [paragraph 5.6.8.3](#), which states:

After each vehicle new engine start/run cycle (other than when performed automatically, e.g. the operation of a stop/start systems), the ACSF of Category [C1] function shall be prevented from performing a lane change manoeuvre until the system has detected, at least once, a moving object at a distance greater than [x] m.

The requirement is based on latent fault detection of a specific technology solution, namely radar. It also requires that a vehicle have over-taking traffic before it should be capable of a lane change. This is unreasonably limiting on both technology and on customer usage. Instead, the requirement stating that “function shall be prevented from performing a lane change manoeuvre until the system has detected, at least once, a moving object at a distance greater than [x] m” should be replaced with “function shall be prevented from performing a lane change manoeuvre until the system has performed a self-diagnostic to determine no faults have occurred in sensors or perception”.

7. Tesla recommends removal of [paragraphs 5.6.4.9.1.4 through 5.6.4.9.1.5](#). These requirements are incomplete as written, and are unnecessary where an ACSF-equipped vehicle performs a self-diagnostic check, which would also include new error conditions that have been included in a newer software version. Therefore, there is no advantage to warning based on software that a customer/driver cannot understand or respond to.

Comments related to the informal proposal document from Daimler:

8. Tesla disagrees with the proposed [paragraph 5.6.1.2.7](#), relating to Remote Control Parking. As proposed, the requirement that “[t]he specified maximum RCP operating range shall not exceed 6m” is arbitrary and unnecessary, and not based on any safety performance of the RCP system. We recommend striking this distance limitation, because other requirements proposed in 5.6.1 already address object detection and speed to establish safe performance of the manoeuvre.
9. Tesla supports the proposed [paragraphs 12.1 through 12.4](#). This recommended Transition Provision enables reasonable continuation of approval of a system already established to be safe and improving motorist safety.

We thank the ACSF-group for this opportunity to contribute our recommendations."
