IWG EDR/DSSAD – SG-EDR-06-XX

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The present document is an update of the document “SG-EDR-05-04\_EDR\_Data\_Capture\_Trigger\_DE\_NL\_EC .docx” and is supported by DE, NL and EC

This document contains two parts:

1. Proposals for section 2. Definitions
2. Proposal for section 3.x Trigger conditions
3. Proposal for section 3.4.4 Overwriting

1) Proposals for section 2. Definitions [further review required]

2.10  
“Event” means a [crash or other] physical occurrence that causes a trigger threshold to be met or exceeded.

2.x

“Memory locking” means that event data recorded in the EDR, corresponding to a specific event will be prevented from overwriting. Data locking occurs when a trigger threshold is met or exceeded as specified in the section 3.x Trigger conditions.

2.x

“Time zero” means whichever of the following occurs first:

(1) For systems with “wake-up” air bag control systems, the time at which the occupant restraint control algorithm is activated; or

(2) For continuously running algorithms,

(i) The first point in the interval where a longitudinal cumulative delta-V of over 0.8 km/h (0.5 mph) is reached within a 20 ms time period; or

(ii) For vehicles that record “delta-V, lateral,” the first point in the interval where a lateral cumulative delta-V of over 0.8 km/h (0.5 mph) is reached within a 5 ms time period; or

(3) Deployment of a non-reversible deployable restraint.

2.46  
“Trigger threshold” is the threshold value of a specific trigger as defined in section 3.x Trigger conditions.

2.x

A “secondary safety protection system” is one that helps to mitigate the consequences of a collision, such as an airbag or a pop-up bonnet.

2) Proposal for section 3.x Trigger conditions

*Remark: The following section is drafted to be included in the 1st stage EDR regulation related to vehicles of categories M1 and N1. In comprehensible and credible cases the mandatory entry into force of a certain trigger could be later than in the year 2022 (introduction of transitional periods).*

An event shall be recorded by the EDR if one of the following threshold values for the respective trigger is met or exceeded:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trigger | Trigger threshold | Memory locking | | *Remark: Source (for IWG information)* |
| Change in longitudinal vehicle velocity | More than 8 km/h within a 150 ms interval |  | NO | NHTSA 49 CFR Part 563 |
| Change in lateral vehicle velocity | More than 8 km/h within a 150 ms interval |  | NO | NHTSA 49 CFR Part 563 |
| Change in longitudinal vehicle velocity | More than [25] km/h within a 150 ms interval | YES |  | SG-EDR-05-05 China |
| Non-reversible occupant restraint system status | Deployment | YES |  | NHTSA 49 CFR Part 563 |
| Deployment of VRU secondary safety protection system | Deployment | YES |  | - |
| Rollover | For systems with “wake-up” rollover occupant protection control algorithms, the time at which the rollover occupant protection control algorithm is activated.  For continuously running occupant protection control algorithms, the time at which the event is determined to have started as defined by the specific Original Equipment Manufacturer (OEM) and occupant protection control system supplier (for example, accumulated angle or angular rate).  A rollover occupant protection system deployment occurs. | YES |  | SAE J 1698 (time zero definition) |

If a vehicle is not equipped with any non-reversible occupant restraint system, any Vulnerable Road User (VRU) secondary safety protection system, or any rollover occupant protection system, this document requires neither recording of data in cases where the relevant threshold value would have been met or exceeded (unless the threshold value of another trigger is met or exceeded) nor fitting of such systems. However, if the vehicle is equipped with such a system, then it is mandatory to record the event data if the relevant threshold values for the respective trigger is met or exceeded.

*Remark (not being copied to any regulation text): A jerk-based criterion is being developed for discussion in the IWG by some interested parties. We might support complementing / replacing our proposed triggers by that work if ready in time.*

3) Proposal for section 3.3.4 Overwriting

3.3.4.1

*Current draft regulation text:*

“If an EDR non-volatile memory buffer void of previous-event data is not available, the manufacturer may choose to either overwrite any previous event data that does not deploy an air bag with the current event data, or to not record the current event data.”

*Additional text:*

However, in this case, data recorded due to any of the trigger thresholds referred to in [Section 3.x Trigger conditions, above-mentioned table] being reached:

- can be overwritten only by data to be recorded due to one of such trigger thresholds being reached and

- shall always overwrite data that have not been recorded due to any of such trigger thresholds being reached.

*Remark (not being copied to any regulation text): The goal here is to manage the situation where EDRs have more than the minimum number of non-volatile memory buffers available (considering that manufacturers may have their own triggers). We want to ensure that the data recorded as part of the regulation, would not be overwritten.*