EDR-DSSAD-IWG-29

Rollover Event Issues

Korea Transportation Safety Authority
Korea Automobile Testing & Research Institute

Rollover Event Issues

1 Background

- **Issue** : If a crash event occurs while the **ROPS algorithm has not yet terminated**,

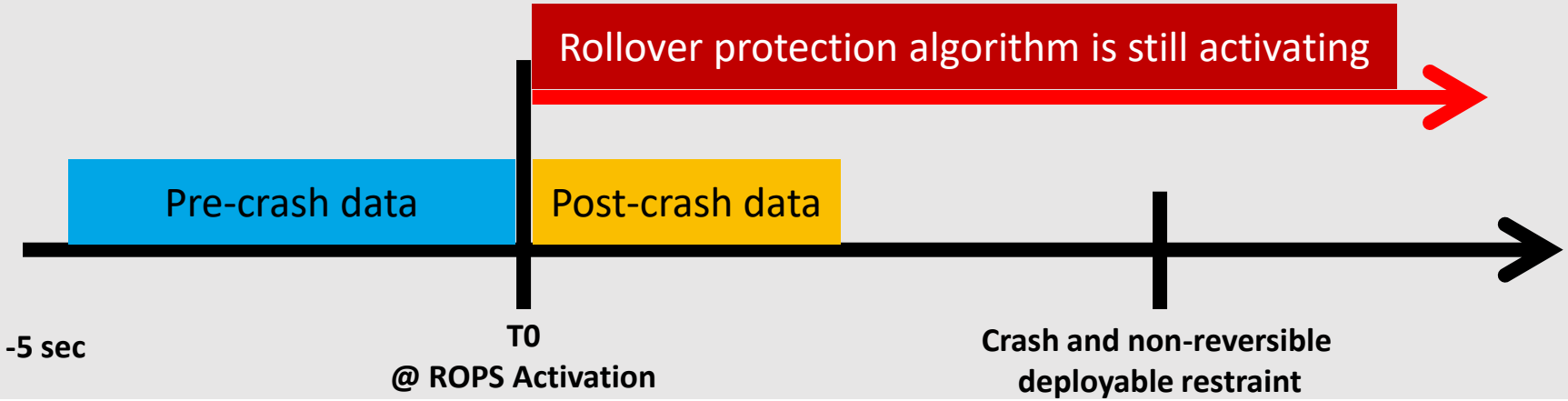
  → The **pre-crash and post-crash data at the time of collision cannot be obtained** *(in some wake-up air bag control systems)*.

- **Cause**

  i) A rollover event only ends when **ROPS algorithm monitoring** is completed.

  ii) ROPS monitoring can last for a long duration.

  iii) As the rollover event does not terminate, the **crash event is not recorded.**

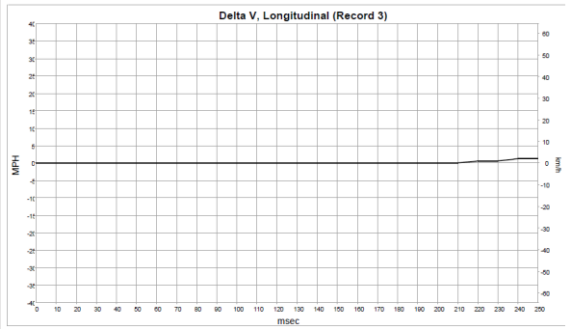


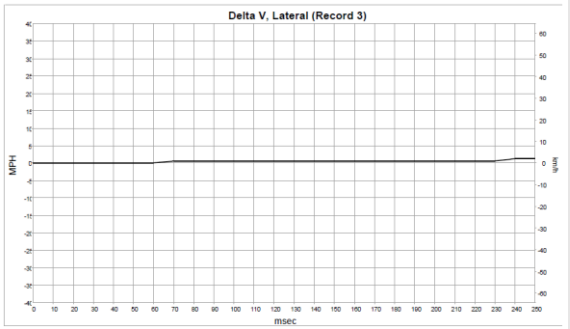
Rollover Event Issues

1 Background

- **Result** : EDR data records **only the rollover event, not the actual crash**.

  → It cannot fully support **effective crash investigation** and **analysis of safety equipment performance**.





- **Proposed Amendment** (EDR-DSSAD-IWG-27-25&26)

  → Ensures recording of actual crash information by addressing the issue of unrecorded triggers.

5.3.1. Conditions for triggering recording of data

An event shall be recorded by the EDR if one of the [~~following~~ **threshold values mentioned under paragraphs 5.3.1.1. to 5.3.1.5**] is met or exceeded[**, even if the end of event time of the previous [rollover] event has not been reached**].

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2 Discussions with CLEPA

- Following the proposal at the 27th IWG meeting, further discussions were held with CLEPA.
  - ✓ **CLEPA** proposed **setting the '*End of event time*' for rollover event** in order to ensure the recording of subsequent triggers.
- OICA uploaded document 27-09 as a representative submission, incorporating CLEPA's proposal.
  - ✓ **End of event time** : the moment at 300msec after time zero

> **2.18. "End of event time" means,**
>
> *[omitted]*
>
> **c) For Rollover Event, the moment at [300]msec after time zero.**

  - ✓ **Time zero** : Deployment of the ROPS

> 5.3.3. Conditions for establishment of time zero
>
> Time zero is established at the time when any of the following first occurs:
>
> *[omitted]*
>
> **5.3.3.4. For Rollover Event**
>
> **5.3.3.4.1** Deployment of the Rollover protection system.

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3 Opinion on OICA Proposal

Agreement

✓ In the EDR records, it is agreed to set the ***End of event time*** for **Rollover event**.

→ **Delete** the originally proposed text (paragraph 5.3.1).

→ **Add** OICA's proposed text (paragraphs 2.18(c) and 5.3.3.4)

Concern

① **The ROPS algorithm must continue to operate even after the end of event time(300ms).**

② **Consider extending the recording time range** for the '***Vehicle roll angle***' and '***Vehicle roll rate***' elements to include the **pre-crash data.**

→ As **Time 0** is set based on the **deployment of the ROPS**.

→ **Post-crash data (0 to 250ms) cannot fully support** effective crash investigations and analysis of safety equipment performance **in rollover event**.

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