7. Monitoring of DCAS operation

7.1. Monitoring of DCAS Operation

7.1.1. The manufacturer shall maintain processes to monitor safety-critical occurrences caused by the operation of the system.

7.1.2. The manufacturer shall set up a monitoring program aimed at collecting and analysing data in order to provide, to the extent feasible, evidence of the in-service safety performance of the DCAS and confirmatory evidence of the audit results of the Safety Management System requirements established in Annex 3 to this Regulation.

7.2. Reporting of DCAS operation

7.2.1. Initial notification of Safety-Critical Occurrences

7.2.1.1. The manufacturer shall notify the Type Approval Authority without unreasonable delay about any safety-critical occurrence the manufacturer becomes aware of through a monitoring program, where the system or its features were in ‘on’ mode, or had been switched to ‘on’ mode within the last 5 seconds before the safety-critical occurrence.

7.2.1.1.1. For systems capable of system-initiated manoeuvres, the applicable notification requirement shall apply to any instance where the feature was active within the last 7 seconds before the safety-critical occurrence.

7.2.1.2. The initial notification may be limited to high-level data but shall contain information about the features in ‘on’ mode, or which had been switched to ‘on’ mode with the last 5 seconds before the safety-critical occurrence (e.g., location, time, type of accident) to the extent that such information is available at the time of notification.

7.2.2. Short-term Reporting of Safety-Critical Occurrences

7.2.2.1. Following the initial notification as per paragraph 7.2.1., the manufacturer shall investigate whether the incident was related to DCAS operation and inform the Type Approval Authority of the results of this investigation as soon as possible. If the operation of the system was likely one of the causes of the incident,in addition, the manufacturer shall inform the Type Approval Authority of intended remedial action(s) addressing DCAS design, if applicable.

7.2.2.2. If remedial action is required, the Type Approval Authority shall upload this information in English language to the secure database "DETA"[[1]](#footnote-2), established by the United Nations Economic Commission for Europe, without undue delay after the manufacturer has informed the Type Approval Authority to communicate this information to all Type Approval Authorities. The information shall be sufficient to understand the cause for and the remedial action itself.

7.2.2.3. If the Type Approval Authority is informed of a safety critical occurrence with a vehicle equipped with DCAS through sources other than a vehicle manufacturer, such as by other Type Approval Authorities, that Type Approval Authority may request the manufacturer to provide available information of the incident in a comprehensive and accessible way as stipulated in 7.2.1. and 7.2.2.

7.2.3. Periodic Reporting

7.2.3.1. The manufacturer shall report at least once a year to the Type Approval Authority on the information deemed to be proper evidence of the intended operation collected through the monitoring program and safety of the system in the field until the production is definitively discontinued according to paragraph 14. The manufacturer shall report at least the information listed in the table below, which can be shared in confidence with other Type Approval Authorities on request but are not intended to be shared publicly. The manufacturer shall be notified in this case. Additional information is subject to agreement between the Type Approval Authority and the manufacturer.

In the event that the system was subject to significant changes relevant to the reported information during the reporting period, the report shall differentiate the changes of the system.

Table 1

**Information for Periodic Reporting**

| *Frequency of Occurrence*  *(Total, with related hours of operation and distance travelled unless specified)* |
| --- |
| 1. Safety-critical occurrences known to the manufacturer ~~depending on~~ differentiated by the capability of the DCAS at the time:   * Lane keeping; * Driver-initiated manoeuvres; * Driver-confirmed manoeuvres; * System-initiated manoeuvres,   and in each case whether it was wHOR. |
| 2. Number of vehicles equipped with the system |
| 2.a. Number of vehicles in which the system was available to be switched ‘ON’ at any point during the reporting period (if different from 2) |
| 2.b. Number of vehicles in which the system has been switched ‘ON’ during this reporting period |
| 2.c. Number of vehicles (of those in 2.a.) from which no data was received during this reporting period |
| 2.d. Aggregated distance driven by the vehicles in item 2.a. with the system in ‘passive’ mode |
| 2.e. Aggregated distance driven by the vehicles in item 2.a. with the system in ‘active’ mode |
|  |
| 3. Number of events resulting in a driver unavailability response |
| 4. Number of system-initiated deactivations of the system or its features due to: |
| 4.a. Detected system failures |
| 4.b. Exceeding system boundaries |
| 4.c. Other (if applicable) |
| 5. Percentage of total distance travelled with a driver-set speed limit above the system-determined speed limit while the system is in ‘active’ mode |
| 6. Disablement of the system due to insufficient driver engagement. |
| 6.a. Number of events where the system was disabled due to insufficient engagement by the driver according to paragraph 5.5.4.2.8.2. |
| 6.b. Number of events where the powertrain was deactivated less than 5 minutes after the system was disabled due to insufficient engagement by the driver. |
| 6.c. Number of events where the system was disabled due to repeated EOR warnings, including a description of the number of warnings and the time interval defined by the manufacturer as per paragraph 5.5.4.2.8.3. |
| 6.d. Number of events where the system was disabled due to repeated HOR warnings, including a description of the number of warnings and the time interval defined by the manufacturer as per paragraph 5.5.4.2.8.3. |
| 7. Repeated HORs/EORs |
| 7.a. Number of events where 5 EORs are issued within a 10-minute period while the system is active. Once this event is recorded, counting of EOR is reset for the purpose of reporting. |
| 7.b. Number of events where 5 HORs are issued within a 10-minute period while the system is active. Once this event is recorded, counting of HOR is reset for the purpose of reporting. |
| 8. During phases of withholding HORs without driver override of the longitudinal control (if applicable). |
| 8.a. Number of events where an upcoming boundary condition is detected and a HOR is given at least 5s in advance (see 5.5.4.2.6.5.1). |
| 8.b. Number of events where an upcoming boundary condition is detected and a HOR is not given at least 5s in advance (see 5.5.4.2.6.5.1). |
| 8.c. Driving distance and time while the system is withholding HORs. |
| 9. Number of started System-Initiated Manoeuvres (if applicable) in highway environment. |
| 9.a. Percentage of driver-aborted SIM |
| 9.b. Percentage of system-aborted SIM |
| 10. Number of started System-Initiated Manoeuvres (if applicable) in non-highway environment |
| 10.a. Percentage of driver-aborted SIM |
| 10.b. Percentage of system-aborted SIM |

1. https://www.unece.org/trans/main/wp29/datasharing.html [↑](#footnote-ref-2)