

§7.1. Audit of the SMS

Green means no change to the text (including no numbering change)

Blue means an editorial proposal.

Orange means an open issue or substantive proposal for amendment.

Original Text	Proposals for Revision	Comments
7. Compliance Assessment		
7.1. SMS Audit		
7.1.1. Objectives of the SMS audit		
7.1.1.1. The documentation of the manufacturer’s safety management system shall be audited for compliance with the provisions under section 6.2.		Section 6.1.
7.1.1.2. The audit of the manufacturer’s safety management system shall provide confirmatory evidence on the robustness of the manufacturer’s processes to manage safety risks and to ensure safety throughout the ADS lifecycle (development, production, operation and decommissioning).		The audit does not provide evidence. The manufacturer’s documentation of the SMS provides the basis for the assessment. The audit checks whether the manufacturer’s SMS satisfies the requirements (which establish whether the SMS is “robust”). Only para. 6.1.6.5. concerning periodic reporting mentions “safety throughout the ADS lifecycle” (the correct term is the “useful life of the ADS vehicle”). There is no SMS requirement to manage safety risks throughout the ADS life.
7.1.1.3. The auditor shall evaluate the robustness of the manufacturer’s processes to monitor the safety	Move to post-deployment safety assessment subsection.	This provision refers to the periodic reporting requirements.

	management system activities (KPIs) and to take appropriate (corrective or preventive) action to address any issue.		
7.1.1.4.	The audit of the safety management system shall only be conducted by auditors with the technical and administrative knowledge necessary for such purposes. This competence shall be demonstrated by appropriate qualifications or other equivalent training records.		
7.1.2.	The auditor shall verify that the manufacturer has used suitable and documented processes to derive behavioural competencies and scenarios that are ODD-relevant and are relevant to the ADS safety case.		Third level should be a subsection header. Where are the requirements and assessment criteria found? The SMS does not have any reference to ODD or behavioural competencies. The only reference to “scenarios” concerns ISMR.
7.1.2.1.	The auditor may refer to the methodology outlined in the Annex [ODD framework annex] as a suitable approach against which to review the approach adopted by the manufacturer.		
7.1.2.2.	The auditor shall verify that the manufacturer’s approach and processes to identify and generate scenarios:		There are requirements masquerading as assessment criteria.
	(a) covers the necessary nominal, critical and failure scenarios		
	(b) takes into account data driven, knowledge driven and stochastic approaches to systematically identify hazardous events and other occurrences used to develop scenarios		

<p>(c) properly maps and characterises the behaviour of all the elements included in the scenarios.</p>		
<p>7.1.2.3. The auditor shall verify that the manufacturer has used sampling techniques when selecting parameters to be used in creating logical and concrete scenarios used as evidence supporting the ADS safety case to avoid the ADS being optimized for a set of known test cases.</p>		<p>Where is this required in the SMS?</p>
<p>7.1.3. The auditor shall verify that the manufacturer has suitable processes, resources and competent personnel in place for the testing that has been undertaken to demonstrate the ADS safety case.</p>		<p>Where is this required in the SMS?</p>
<p>7.1.3.1. The auditor shall verify that the manufacturer has suitable processes and competent personnel to assess the behavioural competencies demonstrated by the ADS under each scenario against requirements for performance of the Dynamic Driving Task (DDT).</p>		<p>Where is this required in the SMS?</p>
<p>7.1.3.2. The auditor verify that the manufacturer has suitable processes and competent personnel to assess the capability of the ADS to ensure the safety of users and their use of ADS vehicles.</p>		<p>Where is this required in the SMS?</p>
<p>7.1.3.3. The auditor shall verify that the manufacturer has suitable processes in</p>		<p>Where is this required in the SMS?</p>

	place to identify the set of scenarios to be tested via track-testing.		
7.1.3.4.	The auditor shall verify that the manufacturer has suitable processes in place to identify test routes that capture predictable aspects of the ODD (e.g., road types and geometries), elements found in the related nominal scenarios (e.g., other road users, signs, and signals), and typical dynamic conditions (e.g., high/low traffic densities). The test routes shall also enable verification of nominal requirements for the safety of user interactions, including prior to, at the time of, and after entering and exiting the ODD of an ADS feature.		Where is this required in the SMS?
7.1.4.	Pre-Deployment Assessment of In-service monitoring and reporting	7.1.4. Post-deployment safety assessment	The heading should align with the corresponding requirements.
7.1.4.1.	[UNR] The Type Approval Authority or its Technical Service shall review the manufacturer’s documentation to ensure the suitability of ISMR practices for the ADS.		
7.1.4.1.	[GTR] The Assessor shall review the manufacture’s documentation to ensure the suitability of ISMR practices for the ADS.		
7.1.4.2.	The documentation review shall provide evidence that:		
	(a) the processes for ISMR are suitable for the ADS		

	(b) the tools used for ISMR are suitable for the ADS		
	(c) the personnel for ISMR have an adequate level of competence.		
7.1.4.3.	(UNR) The Type Approval Authority or its Technical Service shall evaluate the manufacturer’s capability to monitor the ADS as per the requirement listed in the [6.1.5.1.-6.1.5.8].		
7.1.4.3.	(GTR) The Assessor shall evaluate the manufacturer’s capability to monitor the ADS as per the requirement listed in the [6.1.5.1.-6.1.5.8].		
7.1.4.4.	(UNR) The Type Approval Authority or its Technical Service shall evaluate the manufacturer’s approach/methods:		
7.1.4.4.	(GTR) The Assessor shall evaluate the manufacturer’s approach/methods:		
	(a) To verify the safety performance of the ADS during the operation and		
	(b) To ensure the effectiveness of their safety risk controls.		
7.1.4.5.	(UNR) The Type Approval Authority or its Technical Service shall verify and evaluate that the Manufacturer has a mechanism in place:		
7.1.4.5.	(GTR) The Assessor shall verify and evaluate that the Manufacturer has a mechanism in place:		
	(a) To collect data from the vehicle and to receive data other sources		

<p>(b) To utilize all relevant data feeding sources in order to assess the ADS safety risks, evaluate its safety performance, and, in time, take appropriate actions and check their effectiveness.</p>		
<p>7.1.4.6. The documentation review shall provide evidence that, at least:</p>		
<p>(a) Responsibilities and timelines are defined to ensure that the monitoring is applied and effective</p>		
<p>(b) Methods for data collection and analysis are adequate to ensure monitoring objectives are fulfilled</p>		
<p>(c) ADS safety performance will be verified in reference to the safety performance indicators and safety performance targets as indicated in the Safety Case.</p>		
<p>(d) [the risk assessment, including residual risks, will be evaluated regularly through the information coming from the monitoring activities.]</p>		<p>Brackets</p>
<p>(e) the monitoring takes into account feedback and information received from sources other than the ADS vehicle data</p>		
<p>(f) the effectiveness of the monitoring activity will be regularly reviewed.</p>		

<p>7.1.4.7. (UNR) The Type Approval Authority or its Technical Service shall evaluate the manufacturer’s capability to report the occurrences during the ADS operation as per the requirement listed in the [6.4].</p>		
<p>7.1.4.7. (GTR) The Assessor shall evaluate the manufacturer’s capability to report the occurrences during the ADS operation as per the requirement listed in the [6.4].</p>		
<p>7.1.4.8. (UNR) The Type Approval Authority or its Technical Service shall evaluate the manufacturer approach/methods for reporting the occurrences experienced by the ADS during the operation and for assessing the cause of such events.</p>		
<p>7.1.4.8. (GTR) The assessor shall evaluate the manufacturer approach/methods for reporting the occurrences experienced by the ADS during the operation and for assessing the cause of such events.</p>		
<p>7.1.4.9. (UNR) The Type Approval Authority or its Technical Service shall verify that the manufacturer utilizes the templates in the Annex X. (Note: Not all the data elements included in the template are mandatory. However, the assessor shall evaluate the rationale provided by the manufacturer when:</p>		
<p>7.1.4.9. (GTR) The Assessor shall verify that the manufacturer utilizes the templates in the Annex X. (Note: Not all the data elements included in the template are</p>		

<p>mandatory. However, the assessor shall evaluate the rationale provided by the manufacturer when:</p>		
<p>(a) not mandatory data are not included,</p>		
<p>(b) not mandatory data will be included, but in a later stage.</p>		
<p>7.1.4.10. (UNR) The Type Approval Authority or its Technical Service shall evaluate the adequacy of the information that the manufacturer intends to use for the characterisation of the occurrences (e.g. data elements and metrics).</p>		<p>Reference to SMS requirement(s)?</p>
<p>7.1.4.10. (GTR) The Assessor shall evaluate the adequacy of the information that the manufacturer intends to use for the characterisation of the occurrences (e.g. data elements and metrics).</p>	<p>7.1.4.10.</p>	<p>Reference to SMS requirement(s)?</p>