

Draft UN Regulation on ADS

Uniform provisions concerning the approval of vehicles with regard to Automated Driving Systems

Contents

	<i>Page</i>
1. Scope	X
2. Definitions.....	X
3. Application for approval	X
4. Approval.....	X
5. Requirements.....	X
6. Test	X
7. Modification and extension of approval of a vehicle type	X
8. Conformity of production.....	X
9. Penalties for non-conformity of production.....	X
10. Production definitively discontinued.....	X
11. Names and addresses of the Technical Services responsible for conducting approval tests and of the Type Approval Authorities	X

Annexes

1 Communication.....	X
2 Examples of arrangements of approval marks	X
3 XXXXXX	

1. Scope

Wait for ADS IWG discussion.

2. Definitions

Wait for ADS IWG discussion.

3. Application for Approval (OPI: NL/RDW)

3.1. The application for approval of a vehicle type with regard to the automated driving performance shall be submitted by the vehicle manufacturer or by their duly accredited representative in accordance with the procedure set out in Schedule 3 of the Agreement (E/ECE/TRANS/505/Rev.3).

3.2. A model of the information document is given in Annex 1 – Appendix 1.

4. Approval (OPI:UK/VCA)

4.1. Approval Authorities shall grant, as appropriate, type approval with regard to **Automated Driving Systems**, only to such vehicle types that satisfy the requirements of this Regulation.

4.1.1. The Approval Authority or the Technical Service shall verify by means of document checks and appropriate testing that the vehicle manufacturer has taken the necessary measures relevant for the vehicle type to:

[Placeholder – list of fundamental aspects that the manufacturer must demonstrate to the TAA and TS; to come from the work of the ‘Assessment’ OPI.]

4.1.2. The Approval Authority or the Technical Service shall verify by testing of a vehicle of the vehicle type that the vehicle manufacturer has implemented the measures they have documented. Tests shall be performed by the Approval Authority or the Technical Service itself, or in collaboration with the vehicle manufacturer, by sampling. ~~Sampling shall be focused but not limited to risks that are assessed as high during the risk assessment.~~

4.1.3. The Approval Authority or Technical Service shall refuse to grant the type approval where the vehicle manufacturer has not fulfilled one or more of the requirements of this regulation. ~~referred to in paragraphs 7.3., notably:~~

(a) ~~The vehicle manufacturer did not perform the exhaustive risk assessment referred to in paragraph 7.3.3.; including where the manufacturer did not consider all the risks related to threats referred to in Annex 5, Part A;~~




(b) ~~The vehicle manufacturer did not protect the vehicle type against risks identified in the vehicle manufacturer’s risk assessment or proportionate mitigations were not implemented as required by paragraph 7.;~~

(c) ~~The vehicle manufacturer did not put in place appropriate and proportionate measures to secure dedicated environments on the vehicle type (if provided) for the storage and execution of aftermarket software, services, applications or data;~~

(d) ~~The vehicle manufacturer did not perform, prior to the approval, appropriate and sufficient testing to verify the effectiveness of the security measures implemented.~~

4.1.4. The assessing Approval Authority shall also refuse to grant the type approval where the Approval Authority or Technical Service has not received sufficient information from the vehicle manufacturer to assess the **Automated Driving System** of the vehicle type.

- 4.2. Notice of approval or of extension or refusal of approval of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the 1958 Agreement which apply this Regulation, by means of a form conforming to the model in Annex [X] to this Regulation.
- 4.3. Approval Authorities shall not grant any type approval without verifying that the manufacturer has put in place satisfactory arrangements and procedures to manage properly all aspects as covered by this Regulation.
- 4.3.1. The Approval Authority and its Technical Services shall ensure, in addition to the criteria laid down in Schedule 2 of the 1958 Agreement that they have:
- (a) Competent personnel with appropriate skills and specific knowledge of functional safety, safety of the intended functionality, modelling & simulation, and human factors.
 - (b) Implemented procedures for the uniform evaluation according to this Regulation.
- ~~4.3.2. Each Contracting Party applying this Regulation shall notify and inform by its Approval Authority other Approval Authorities of the Contracting Parties applying this UN Regulation about the method and criteria taken as a basis by the notifying Authority to assess the appropriateness of the measures taken in accordance with this regulation and in particular with paragraphs 5.1., 7.2. and 7.3.~~
- ~~This information shall be shared (a) only before granting an approval according to this Regulation for the first time and (b) each time the method or criteria for assessment is updated.~~
- ~~This information is intended to be shared for the purposes of collection and analysis of the best practices and in view of ensuring the convergent application of this Regulation by all Approval Authorities applying this Regulation.~~
- ~~4.3.3. The information referred to in paragraph 4.3.2 shall be uploaded in English language to the secure internet database "DETA",² established by the United Nations Economic Commission for Europe, in due time and no later than 14 days before an approval is granted for the first time under the methods and criteria of assessment concerned. The information shall be sufficient to understand what minimum performance levels the Approval Authority adopted for each specific requirement referred to in paragraph 4.3.2 as well as the processes and measures it applies to verify that these minimum performance levels are met. ³~~
- ~~4.3.4. Approval Authorities receiving the information referred to in paragraph 4.3.2 may submit comments to the notifying Approval Authority by uploading them to DETA within 14 days after the day of notification.~~
- ~~4.3.5. If it is not possible for the granting Approval Authority to take into account the comments received in accordance with paragraph 4.3.4., the Approval Authorities having sent comments and the granting Approval Authority shall seek further clarification in accordance with Schedule 6 to the 1958 Agreement. The relevant subsidiary Working Party⁴ of the World Forum for Harmonization of Vehicle Regulations (WP.29) for this Regulation shall agree on a common interpretation of methods and criteria of assessment.⁵ That common interpretation shall be implemented and all Approval Authorities shall issue type approvals under this Regulation accordingly.~~
- 4.3.6. Each Approval Authority granting a type approval pursuant to this Regulation shall notify other Approval Authorities of the approval granted. The type approval together with the supplementing documentation [including at least x, y, z] shall be uploaded in English language by the Approval Authority within 14 days after the day of granting the approval to DETA.

- 4.3.7. The Contracting Parties may study the approvals granted based on the information uploaded according to paragraph 4.3.6. In case of any diverging views between Contracting Parties this shall be settled in accordance with Article 10 and Schedule 6 of the 1958 Agreement. The Contracting Parties shall also inform the relevant subsidiary Working Party of the World Forum for Harmonization of Vehicle Regulations (WP.29) of the diverging interpretations within the meaning of Schedule 6 to the 1958 Agreement. The relevant Working Party shall support the settlement of the diverging views and may consult with WP.29 on this if needed.
- 4.4.  For the purpose of paragraph [SMS] of this Regulation, the manufacturer shall ensure that the safety management aspects covered by this Regulation are implemented.
- 4.5. Approvals for vehicles with an Automated Driving System which can operate in the territory of other Contracting Parties 
 [Placeholder – provisions to cover sharing of documentation, peer review and mutual recognition of ADS approvals. Presentation to be given in ADS workshop #2.]
- 4.6. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation, an international approval mark consisting of:
- 4.6.1. a circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval(footnote)
- 4.6.2. the number of this Regulation, followed by the letter "R", a dash and the approval number, to the right of the circle prescribed in paragraph 4.6.1. above; and
- 4.6.3.  an additional symbol consisting of the Roman numerals for the type(s) of ADS Feature present in the ADS which has been approved.
- 4.7. If the vehicle conforms to a vehicle type approved under one or more other Regulations annexed to the Agreement, in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 4.6.1. above need not be repeated; in such a case, the Regulation and approval numbers and the additional symbols shall be placed in vertical columns to the right of the symbol prescribed in paragraph 4.6.1. above.
- 4.8. The approval mark shall be clearly legible and be indelible.
- 4.9. The approval mark shall be placed close to or on the vehicle or bodywork data plate affixed by the manufacturer.
- 4.10. Annex [2] to this Regulation gives examples of arrangements of approval marks.

5. General Requirements/ Specifications

Wait for ADS IWG discussion.

6. Assessment and Test Methods



Wait for ADS IWG discussion.

7. Modifications and extension of approval of the vehicle type (OPI: EC, Japan)

- 7.1. Every modification of the vehicle type with regard to this Regulation shall be notified to the Type Approval Authority which approved that vehicle

type. The Type Approval Authority may then either:

- (a) Decide, in consultation with the manufacturer, that a new type approval is to be granted; or
- (b) Apply the procedure contained in paragraph 7.1.1. (Revision) and, if applicable, the procedure contained in paragraph 7.1.2. (Extension).

7.1.1. Revision

When particulars recorded in the information documents of Annex 1 - Appendix 1 have changed and the Type Approval Authority considers that the modifications made are unlikely to have appreciable adverse effect, and that in any case the vehicle still meets the requirements, the modification shall be designated a "revision".

In such a case, the Type Approval Authority shall issue the revised pages of the information documents of Annex 1 - Appendix 1 as necessary, marking each revised page to show clearly the nature of the modification and the date of re-issue. A consolidated, updated version of the information documents of Annex 1 - Appendix 1, accompanied by a detailed description of the modification, shall be deemed to meet this requirement.

7.1.2. Extension

The modification shall be designated an "extension" if, in addition to the change of the particulars recorded in the information folder:

- (a) Further inspections or tests are required; or
- (b) Any information on the communication document (with the exception of its attachments) has changed; or
- (c) Approval to a later series of amendments is requested after its entry into force.

7.2. Notice of confirmation, extension, or refusal of approval shall be communicated by the procedure specified in paragraph 4.3. above, to the Contracting Parties to the Agreement applying this Regulation. In addition, the index to the information documents and to the test reports, attached to the communication document of Annex 1, shall be amended accordingly to show the date of the most recent revision or extension.

7.3. The Type Approval Authority issuing the extension of approval shall assign a series number to each communication form drawn up for such an extension.

8. **Conformity of Production** (OPI: EC, Japan)

The conformity of production procedures shall comply with those set out in the Agreement, Schedule 1 (E/ECE/TRANS/505/Rev.3), with the following requirements:

8.1. Every vehicle bearing approved under this Regulation shall conform to the vehicle type approved by meeting the requirements set out in paragraph 5. above.

9. **Penalties for non-conformity of production** (OPI: EC, Japan)

9.1. The approval granted in respect of a vehicle type pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 8.1. above is not complied with.

9.2. If a Contracting Party to the Agreement which applies this Regulation

withdraws an approval it has previously granted, it shall forthwith notify the other Contracting Parties applying this Regulation by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "APPROVAL WITHDRAWN".

10. Production definitively discontinued (OPI: EC, Japan)

If the holder of the approval completely ceases to manufacture the vehicle type approved in accordance with this Regulation, he shall so inform the Type Approval Authority which granted the approval. Upon receiving the relevant communication that Type Approval Authority shall inform thereof the other Contracting Parties applying this Regulation by means of a copy of the approval form bearing at the end, in large letters, the signed and dated annotation "PRODUCTION DISCONTINUED".

11. Names and addresses of Technical Services responsible for conducting approval tests and of Type Approval Authorities (OPI: EC, Japan)

The Contracting Parties to the Agreement applying this Regulation shall communicate to the Secretariat of the United Nations the names and addresses of the Technical Services responsible for conducting approval tests and of the Type Approval Authorities which grant approval and to which forms certifying approval or refusal, or extension or withdrawal of approval, issued in the other countries, are to be sent.

Annex 1 (OPI :NL/RDW)

Communication

(Maximum format: A4 (210 x 297 mm))



issued by: Name of administration:

.....
.....
.....

- Concerning:² Approval granted
Approval extended
Approval refused
Approval withdrawn
Production definitively discontinued

of a vehicle type with regard to Automated Driving Systems, pursuant to UN Regulation **XXX**

Approval No.: Extension No.:

1. Trade name or mark of the power-driven vehicle
2. Vehicle type
3. Manufacturer's name and address
4. If applicable, name and address of manufacturer's representative
5. Brief description of the vehicle type
- 5.1. Description of the fuel system installed in the vehicle.....
- 5.2. Description of the electric power train
6. Site of engine: forward/rear/central²
7. Drive: front-wheel/rear-wheel²
8. Mass of vehicle submitted for testing:
Front axle:
Rear axle:
Total:.....
9. Vehicle submitted for approval on
10. Technical Service responsible for conducting approval tests

¹ Distinguishing number of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the Regulation).

² Strike out what does not apply

11. Date of report issued by that Service
12. Number of reports issued by that Service
13. Approval granted/refused/extended/withdrawn²
14. Position of approval mark on vehicle
15. Place
16. Date
17. Signature
18. The following documents, bearing the approval number shown above, are annexed to this communication:
19. Remarks (e.g. alternative test method according to Annex 3, paragraph 3 applied.)....
(Photographs and/or diagrams and drawings permitting the basic identification of the type(s) of vehicle and its possible variants which are covered by the approval)

Annex 1 – Appendix 1

Information document

- 0. GENERAL
 - 0.1. Make (trade name of manufacturer):
 - 0.2. Type:
 - 0.2.1. Commercial name(s) (if available):
 - 0.3. Means of identification of type, if marked on the vehicle:¹
 - 0.3.1. Location of that marking:
 - 0.4. Category of vehicle:²
 - 0.5. Company name and address of manufacturer:
 - 0.8. Name(s) and Address(es) of assembly plant(s):
 - 0.9. Name and address of the manufacturer's representative (if any):
- 1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
 - 1.1. Photographs and/or drawings of a representative vehicle
 - 1.3. Number of axles and wheels:
 - 1.3.3. Powered axles (number, position, interconnection):
 - 1.6. Position and arrangement of the engine:
- 2. MASSES AND DIMENSIONS (in kg and mm) (Refer to drawing where applicable)
 - 2.1. Wheelbase(s) (fully loaded)
 - 2.1.1. Two-axle vehicles:
 - 2.1.2. Vehicles with three or more axles
 - 2.1.2.2. Total axle spacing:
 - 2.4. Range of vehicle dimensions (overall)
 - 2.4.1. For chassis without bodywork
 - 2.4.1.1. Length (mm):
 - 2.4.1.2. Width (mm):
 - 2.4.2. For chassis with bodywork
 - 2.4.2.1. Length (mm):
 - 2.4.2.2. Width (mm)
 - 2.6. Mass in running order (kg):
- 3. PROPULSION ENERGY CONVERTER
 - 3.2.2. Fuel

¹ If the means of identification of type contains characters which are not relevant to describing the vehicle, i.e. types covered by the type-approval certificate, such characters shall be represented in the documentation by the symbol '?' (e.g. ABC??123??).

² As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.6, para. 2. –
www.unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions

- 3.2.2.1. Light-duty vehicles: Diesel/Petrol/LPG/NG or Biomethane/Ethanol (E 85)/Biodiesel/Hydrogen
- 3.2.3. Fuel tank(s)
 - 3.2.3.1. Service fuel tank(s)
 - 3.2.3.1.1. Number and capacity of each tank:
 - 3.2.3.1.1.1. Material
 - 3.2.3.1.1.2. Drawing and technical description of the tank(s) with all connections and all lines of the breathing and venting system, locks, valves, fastening devices
 - 3.2.3.1.1.3. Drawing clearly showing the position of the tank(s) in the vehicle
 - 3.2.3.2. Reserve fuel tank(s)
 - 3.2.3.2.1. Number and capacity of each tank:
 - 3.2.3.2.1.1. Material
 - 3.2.3.2.1.2. Drawing and technical description of the tank(s) with all connections and all lines of the breathing and venting system, locks, valves, fastening devices
 - 3.2.3.2.1.3. Drawing clearly showing the position of the tank(s) in the vehicle
- 3.3.2. REESS
 - 3.3.2.4. Position
- 3.4. Combinations of propulsion energy converters
 - 3.4.1. Hybrid electric vehicle: yes/no
 - 3.4.2. Category of hybrid electric vehicle: off-vehicle charging/not off-vehicle charging:

Annex 2 (OPI:UK/VCA)

Arrangements of approval marks

Model A

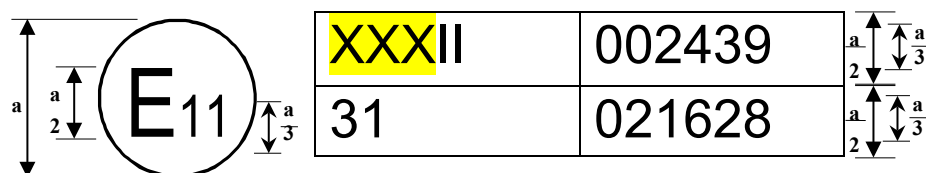
(See paragraph 5.6. of this Regulation)



The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to its ADS, been approved in the United Kingdom (E11) pursuant to UN Regulation No. XXX under approval No. 002439 with ADS features of both Type I and Type II. The approval number indicates that the approval was granted in accordance with the requirements of UN Regulation No. XXX in its original version.

Model B

(See paragraph 5.7. of this Regulation)



The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the United Kingdom (E11) pursuant to UN Regulation Nos. XXX (with ADS feature(s) only of Type II) and 31. The first two digits of the approval numbers indicate that these approvals were granted in accordance with the requirements of UN Regulation No. XXX in its original version and UN Regulation No. 31 as amended by the 02 series of amendments.

