Informal document **GRVA-05-21**
5th GRVA, 10-14 February 2020
Agenda item 3

WORLD TRADE ORGANIZATION

G/TBT/N/JPN/646

6 January 2020

(20-0004)

Committee on Technical Barriers to Trade

Original: English

NOTIFICATION

The following notification is being circulated in accordance with Article 10.6

1.	**Notifying Member:** JAPAN **If applicable, name of local government involved (Article 3.2 and 7.2):**
2.	**Agency responsible:** Ministry of Land, Infrastructure, Transport and Tourism (MLIT) **Name and address (including telephone and fax numbers, email and website addresses, if available) of agency or authority designated to handle comments regarding the notification shall be indicated if different from above:** Engineering Policy Division, Road Transport Bureau, MLIT
3.	**Notified under Article 2.9.2 [X], 2.10.1 [ ], 5.6.2 [X], 5.7.1 [ ], other:**
4.	**Products covered (HS or CCCN where applicable, otherwise national tariff heading. ICS numbers may be provided in addition, where applicable):** Vehicle (HS: 87.01~87.06, 87.13)
5.	**Title, number of pages and language(s) of the notified document:** Partial revision of the Safety Regulations for Motor Vehicles and relevant regulations. (5 page(s), in English)
6.	**Description of content:** In order to realize automated driving system based on the Revised Road Vehicle Act (enacted in 24 May 2019), the MLIT will revise the Safety Regulations for Motor Vehicles, Transport Ordinance (Ordinance of the Ministry of Transport No. 67, 1951) and other relevant ordinances to develop safety requirements for automated driving system, DSSAD (Data Storage System for Automated Driving vehicles), Cyber Security, etc in line with corresponding new UN Regulations under the 1958 Agreement. In addition, the Revised Road Vehicle Act stipulates that the Minister of Land, Infrastructure, Transport and Tourism grants the Operational Design Domain (ODD) including speeds, routes, weathers for using automated driving systems. The MLIT will revise relevant ordinances to stipulate the procedure for grant of ODD.
7.	**Objective and rationale, including the nature of urgent problems where applicable:** Objective is to realize automated driving system based on the Revised Road Vehicle Act (enacted in 24 May 2019). Rationale is as follows. It is essential to develop safety requirements for automated driving system and relevant safety requirements in line with new UN Regulations under the 1958 Agreement for practical application of automated driving based on the Revised Road Vehicle Acts established by the Parliament.; Other

8.	**Relevant documents:** Safety Regulations for motor vehicles, Transport Ordinance (Ordinance of the Ministry of Transport No. 67, 1951) Public Notice that Prescribes Details of Safety Regulations for motor vehicles (Public Notice of the MLIT No. 619, 2002), etc. When adopted, these amendments will be published in the "KAMPO" (Official Government Gazette) (Available in Japanese).
9.	**Proposed date of adoption:** March 2020 **Proposed date of entry into force:** Date of enforcement of Article 2 of the Revised Road Vehicle Act
10.	**Final date for comments:** 60 days from notification
11.	**Texts available from: National enquiry point [X] or address, telephone and fax numbers and email and website addresses, if available, of other body:** Japan Enquiry Point International Trade Division Economic Affairs Bureau Ministry of Foreign Affairs Fax: (+81 3) 5501 8343 E-mail: enquiry@mofa.go.jp https://members.wto.org/crnattachments/2019/TBT/JPN/19_7358_00_e.pdf

Outline of the Safety Regulations for Motor Vehicles Equipped with Automated Driving System (Draft)

1. Outline of Revision

(1) Safety Regulations

The following and other required revisions are proposed.

(Related to the Safety Regulations for motor vehicles)

① Automated driving system

<Outline of the safety regulations to be stipulated>

- During the operation of the automated driving system, it shall not interfere with the safety of passengers and other road users.
- In the event that the Operational Design Domain (ODD) gets to be unsatisfied during the operation of the automated driving system, in principle, a warning that prompts the driver to take over the driving operation shall be provided with sufficient time in advance. Safe driving shall be continued until the driver has taken over the dynamic driving task, and Minimum Risk Manoeuver shall start and finally stop safely if the driver does not take over.
- When there is a possibility of collision with other traffic or obstacles, braking to avoid collision or to reduce damage at the time of collision to the maximum shall be activated.
- It can be activated and deactivated by the driver's willing operation.
- If the ODD is not satisfied, or if any failure affecting the safe operation or the functionality of the system is present, the system shall not become active.
- Any failure affecting the operation of the system shall be indicated to the driver with an optical signal.
- The system status shall be indicated to the driver.
- The system shall detect if the driver is available and in an appropriate driving position to respond to a transition demand by monitoring the driver. As soon as the system has assessed the driver to no longer be available, the system shall provide a distinctive warning.
- Automated driving system shall be functionally designed with redundancy. (The fulfilment of this provision shall be demonstrated by the manufacturer to the technical service during the inspection of the safety approach as part of the assessment on [complex electronic vehicle control systems (CEL)])

* In addition to the above provisions, especially for vehicles equipped with ”Automated Lane Keeping System (ALKS)” which works in low speed on expressway, that are expected to be put to practical use at an early stage, the detailed technical requirements for lane keeping and vehicle distance keeping are specified separately under this safety regulation.

② DSSAD (Data Storage System for Automated Driving vehicles)

<Outline of the regulations to be stipulated>

DSSAD shall store following information:

- Time stamped switches of the Automated Driving System (ADS) from a status to another status
- Time stamped Transition Demand by the ADS
- Nature of the cause of Transition Demand by the ADS
- Time stamped Minimum Risk Maneuver engagement by the ADS
- Time stamped Override through steering, brake, and accelerator control by the driver

DSSAD shall be able to store a minimum of X thousands (to be determined correspond to period of 6 months of use) timestamped significant interactions or cover a minimum period of 6 months of use, whichever is achieved first[1]

③ Cyber security

<Scope of the regulations>

Vehicles equipped with automated driving system

<Outline of the regulations to be stipulated>

(Requirements for vehicle types)

- The vehicle manufacturer shall demonstrate to the satisfaction of the Approval Authority or Technical Service the risk assessment for the vehicle type and how the risks have been treated/managed. The risk assessment shall consider the systems of the vehicle type and their interactions. The risk assessment shall further consider interactions with any external system.
- The vehicle manufacturer shall describe what testing has been performed and the outcome of those tests.

(Requirements for the Cyber Security Management System)

* This requirement will be specified separately under this safety regulation.

- The vehicle manufacturer shall demonstrate to an Approval Authority or Technical Service that their Cyber Security Management System considers the following phases:
  - Development phase;
  - Production phase;
  - Post-production phase.
- The vehicle manufacturer shall demonstrate that their Cyber Security Management System considers the following processes to ensure security:
  - The processes used within the manufacturer's organization to manage cyber security

[1] This requirement is being discussed under the WP.29, and would be made consistent with the commonly recognized requirement in the discussions.

- The processes used for the identification of risks to vehicle types
- The processes used for the assessment, categorization and treatment of the risks identified
- The processes in place to verify that the risks identified are appropriately managed
- The processes used for testing the cyber security of a vehicle type
- The processes used for ensuring that the risk assessment is kept current
- The processes used to monitor for, detect and respond to cyber-attacks, cyber threats and vulnerabilities on vehicle types and the processes used to assess whether the cyber security measures implemented are still effective in the light of new cyber threats and vulnerabilities that have been identified

・ The vehicle manufacturer shall be required to demonstrate that contracted suppliers, service providers or manufacturer's sub-organizations consider processes listed above.

④ Software updates

<Scope of the regulations>

Vehicles equipped with automated driving system

<Outline of the regulations to be stipulated>

(Requirements for vehicle types)

・ The authenticity and integrity of software updates shall be protected to reasonably prevent their compromise and reasonably prevent invalid updates.

・ Where a vehicle type uses RXSWIN:

- Each RXSWIN shall be uniquely identifiable. When type approval relevant software is modified by the vehicle manufacturer, the RXSWIN shall be updated if it leads to a type approval extension or to a new type approval.
- Each RXSWIN shall be easily readable in a standardized way via the use of an electronic communication interface, at least by the standard interface (OBD port).

  If RXSWINs are not held on the vehicle, the manufacturer shall declare the software version(s) of the vehicle or single ECUs with the connection to the relevant type approvals to the Approval Authority. This declaration shall be updated each time the declared software version(s) is updated. In this case, the software version(s) shall be easily readable in a standardized way via the use of an electronic communication interface, at least by the standard interface (OBD port).
- The vehicle manufacturer shall protect the RXSWINs and/or software version(s) on a vehicle against unauthorised modification. At the time of Type Approval, the means implemented to protect against unauthorized modification

of the RXSWIN and/or software version(s) chosen by the vehicle manufacturer shall be confidentially provided.

- Additional Requirements for over the air updates:
  - The vehicle manufacturer shall ensure that the vehicle is able to restore systems to their previous version in case of a failed or interrupted update or that the vehicle can be placed into a safe state after a failed or interrupted update.
  - The vehicle manufacturer shall ensure that software updates can only be executed when the vehicle has enough power to complete the update process (including that needed for a possible recovery to the previous version or for the vehicle to be placed into a safe state).
  - When the execution of an update may affect the safety of the vehicle, the vehicle manufacturer shall demonstrate how the update will be executed safely. This shall be achieved through technical means that ensure the vehicle is in a state where the update can be executed safely.
  - In the situation where the execution of an update whilst driving may not be safe, the vehicle manufacturer shall demonstrate how they will:
    - Ensure the vehicle cannot be driven during the execution of the update
    - Ensure that the driver is not able to use any functionality of the vehicle that would affect the safety of the vehicle or the successful execution of the update
  - The vehicle manufacturer shall demonstrate that the vehicle user is able to be informed about an update before the update is executed. The information made available shall contain
    - The purpose of the update.
    - Any changes implemented by the update on vehicle functions
    - The expected time to complete execution of the update
    - Any vehicle functionalities which may not be available during the execution of the update
    - Any instructions that may help the vehicle user safely execute the update
  - After the execution of an update the vehicle manufacturer shall demonstrate how the following will be implemented.
    - The vehicle user is able to be informed of the success (or failure) of the update
    - The vehicle user is able to be informed about the changes implemented and any related updates to the user manual (if applicable).

⑤ Mitigation of the regulations

Currently, when conducting verification tests on vehicles equipped with automated driving system, based on the Article 55 of the Safety Regulations for motor vehicles, it is possible to exempt some requirements of the regulations related to control devices, steering devices, etc. with the approval by the Director of the District Transport Bureaus, subject to taking safety measures such as limiting driving routes and speed limits. The MLIT proposes that this exemption measure will be applied to cases other than verification tests. In addition, an exemption measure will be applied to motorized bicycles in the case of verification tests.

(2) Provision of Operational Design Domain (ODD)

<Outline of the procedure for grant of ODD>

An applicant for grant of ODD shall submit an application including the "ODD to be granted" and present the subject vehicle to the Minister of Land, Infrastructure, Transport and Tourism.

<Requirements for ODD>

ODD shall be set in terms of the following categories:

- Infrastructural conditions and geographical conditions
- Environmental conditions,
- Driving conditions, and
- Conditions, other than above, provided by the Minister of Land, Infrastructure, Transport and Tourism

ODD shall be:

- Appropriate conditions such as not violating laws and regulations stipulating traveling speed limit
- Conditions which can usually be foreseen and are clear
- Conditions in which the automated driving system shall conform to the regulations set forth in the Safety Regulations for motor vehicles

<Description of vehicle inspection certificate>

Vehicles with the automated driving system may be described in their vehicle inspection certificates.

2. Schedule

Issue: March, 2020

Enforcement: Date of enforcement of Article 2 of the revised Road Vehicle Act