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**Economic Commission for Europe****Inland Transport Committee****Working Party on the Transport of Dangerous Goods****Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods****9 September 2015**

Geneva, 14-25 September 2015

Item 3 (a) of the provisional agenda

**Proposals for amendments to RID/ADR/ADN:  
pending issues****Carriage of vehicles engines and machinery – harmonisation  
with UN Model Regulations – comments on INF.12 (France)****Transmitted by the Government of Germany****Introduction**

1. INF.12 contains a proposal for provisions and exemptions concerning vehicles. According to the proposed system, exemptions concerning dangerous goods contained in vehicles moving on their own should continue to be contained in section 1.1.3, and provisions and exemptions concerning vehicles carried as cargo are laid down in the special provisions. This also involves introducing special provisions 240, 312, 363 and 385.

2. The mentioned special provisions comprise the following requirement: “Lithium batteries shall meet the requirements of 2.2.9.1.7, except when otherwise provided for in RID/ADR/ADN (e.g. for prototype batteries and small production runs under special provision 310 or damaged batteries under special provision 376)”. This text needs to be modified further as it is not clear from the reference to other requirements in the provisions in which cases the batteries contained in vehicles and machinery are not of a tested battery type.

3. Special provision 310 regulates the carriage of small production runs/prototypes or small production runs/prototypes contained in equipment, but it is not assigned to UN numbers 3166 and 3171 and does therefore not apply if vehicles are carried. Moreover, for special provision 310 to apply, certain prerequisites need to be fulfilled, i.e. a specific purpose of carriage (carriage for testing) and the use of a packaging or unpackaged carriage approved by an authority. Special provision 376 does not apply to vehicles either and requires compliance with certain packaging conditions.

4. If exemptions from the requirements set out in paragraph 2.2.9.1.7 are to be laid down, these cases need to be formulated specifically for vehicles and machinery in the special provisions. The proposed text for damaged and defective vehicles should be amended as a full verification or evaluation of the battery will be not always possible. If a vehicle has a breakdown or an accident on the road, it has to be removed from the street and brought to a

repair shop, the evaluation cannot be carried out by the private person or the towing service. The vehicle which was used and thus exempted according to part one becomes a vehicle transported as load. Not all of these transports are carried out under the supervision of the competent authorities for emergency response or are emergency transports exempted according to 1.1.3.1. letter c or e.

5. Besides the proposed text for damaged vehicles, a text for prototype batteries and batteries of small production runs is required; these batteries should only be exempted from paragraph 2.2.9.1.7 (a), the other requirements regarding the design and manufacturing of the battery should be applicable.

6. Text for prototype batteries and batteries of small production runs should be incorporated also in the new special provision 6yy for machinery. Text for damaged or defective machinery has not been included in the draft amendments below. Unlike vehicles, the machinery is always transported as a load. Nevertheless the necessity of special provision 6yy is not obvious, therefore it is proposed to delete or restrict this provision.

7. Special provision 356 contains requirements to be met by metal hydride storage systems used in vehicles. This specification of the type of metal hydride storage systems should be maintained, even if special provision 356, unlike in the UN Model Regulations, does not apply to metal hydride storage systems installed in vehicles.

8. Special provision 312 and special provision 385 contains redundant text, this superfluous text is deleted and SP 385 is renumbered SP 6ZZ.

9. As regards the proposals contained in INF.12, the following modifications are proposed:

## **Proposals**

### **Proposal 1**

Amend Table A for UN 3166 and 3171, as shown in the annex.

Add the three new entries UN 3528, 3529, 3530 as proposed in document ECE/TRANS/WP.15/AC.1/2015/23/Add.1

### **Proposal 2**

Introduce special provisions 240 and 312, ~~and 385~~ of the UN Recommendations into Chapter 3.3 of RID/ADR as they appear in the 19<sup>th</sup> revised edition of the UN Model Regulations, except for a reference to 2.2.9.1.7 instead of 2.9.4, as follows:

**“240** This entry only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries transported with these batteries installed. Lithium batteries shall meet the requirements of 2.2.9.1.7, except ~~when otherwise provided for in RID/ADR/ADN (e.g. for prototype batteries and small production runs under special provision 310 or damaged batteries under special provision 376)~~ as provided in special provision 6xx

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For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are electrically-powered cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles, trucks, locomotives, bicycles (pedal cycles with an electric motor) and other vehicles of this type (e.g. self-balancing vehicles or vehicles not equipped with at least one seating position), wheel chairs, lawn tractors, self-propelled farming and construction equipment, boats and aircraft. This includes vehicles transported in a packaging. In this case some parts of the vehicle may be detached from its frame to fit into the packaging.

Examples of equipment are lawnmowers, cleaning machines or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries shall be consigned under the entries UN 3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or UN 3091 LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT or UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or UN 3481 LITHIUM ION BATTERIES PACKED WITH EQUIPMENT, as appropriate. Hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. Vehicles which contain a fuel cell shall be consigned under the entries UN 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.

Vehicles may contain other dangerous goods than batteries (e.g. fire extinguishers, compressed gas accumulators or safety devices) required for their functioning or safe operation without being subject to any additional requirements for these other dangerous goods, unless otherwise specified in RID/ADR/ADN.”

“312 Vehicles powered by a fuel cell engine shall be consigned under the entries UN No. 3166 VEHICLE, FUEL CELL, FLAMMABLE GAS POWERED or UN No. 3166 VEHICLE, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both a fuel cell and an internal combustion engine with wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

Other vehicles which contain an internal combustion engine shall be consigned under the entries UN 3166 VEHICLE, FLAMMABLE GAS POWERED or UN 3166 VEHICLE, FLAMMABLE LIQUID POWERED, as appropriate. These entries include hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed.

Lithium batteries shall meet the requirements of 2.2.9.1.7, ~~except when otherwise provided for in RID/ADR/ADN (e.g. for prototype batteries and small production runs under special provision 310 or damaged batteries under special provision 376): as provided in special provision 6xx”~~

~~385 6ZZ This entry applies to vehicles powered by flammable liquid or gas internal combustion engines or fuel cells.~~

~~Hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the batteries installed shall be consigned under this entry. Vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the batteries installed, shall be consigned under the entry UN No. 3171 BATTERYPOWERED VEHICLE (see special provision 240).~~

~~For the purpose of this special provision, see vehicles are self-propelled apparatus designed to carry one or more persons or goods. Examples of such vehicles are cars, motorcycles, trucks, locomotives,~~

~~scooters, three and four wheeled vehicles or motorcycles, lawn tractors, self propelled farming and construction equipment, boats and aircraft. Examples of different type of vehicles in SP 240. Dangerous goods such as batteries, air bags, fire extinguishers, compressed gas accumulators, safety devices and other integral components of the vehicle that are necessary for the operation of the vehicle or for the safety of its operator or passengers, shall be securely installed in the vehicle and are not otherwise subject to these Regulations. However, lithium batteries shall meet the requirements of 2.2.9.1.7 , except when otherwise specified by these Regulations (e.g. for prototype batteries and small production runs under special provision 310 or damaged batteries under special provision 376). as provided in special provision 6xx~~

### Proposal 3

Modify Special provisions 363 as proposed in document ECE/TRANS/WP.15/AC.1/2015/23/Add.1 with three options for para. (g)(vi) to be discussed:

“**363** (a) This entry applies to engines or machinery, powered by fuels classified as dangerous goods via internal combustion systems or fuel cells (e.g. combustion engines, generators, compressors, turbines, heating units, etc.), in quantities above those specified in column (7a) of Table A of Chapter 3.2 , except those which are assigned to UN No. 3166 or their equipments mentioned in special provision 6XX (a).

(b) Engines or machinery which are empty of liquid or gaseous fuels and which do not contain other dangerous goods, are not subject to RID/ADR/ADN.

*NOTE 1: An engine or machinery is considered to be empty of liquid fuel when the liquid fuel tank has been drained and the engine or machinery cannot be operated due to a lack of fuel. Engine or machinery components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty of liquid fuels. In addition, the liquid fuel tank does not need to be cleaned or purged.*

*NOTE 2: An engine or machinery is considered to be empty of gaseous fuels when the gaseous fuel tanks are empty of liquid (for liquefied gases), the positive pressure in the tanks does not exceed 2 bar and the fuel shut-off or isolation valve is closed and secured.*

(c) Engines and machinery containing fuels meeting the classification criteria of Class 3 shall be consigned under the entries UN No. 3528 ENGINE, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN No. 3528 ENGINE, FUEL CELL, FLAMMABLE LIQUID POWERED or UN No. 3528 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE LIQUID POWERED or UN No. 3528 MACHINERY, FUEL CELL, FLAMMABLE LIQUID POWERED, as appropriate.

(d) Engines and machinery containing fuels meeting the classification criteria of flammable gases of Class 2 shall be consigned under the entries UN No. 3529 ENGINE, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN No. 3529 ENGINE, FUEL CELL, FLAMMABLE GAS POWERED or UN No. 3529 MACHINERY, INTERNAL COMBUSTION, FLAMMABLE GAS POWERED or UN No. 3529 MACHINERY, FUEL CELL, FLAMMABLE GAS POWERED, as appropriate.

Engines and machinery powered by both a flammable gas and a flammable liquid shall be consigned under the appropriate UN No. 3529 entry.

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- (e) Engines and machinery containing liquid fuels meeting the classification criteria of 2.2.9.1.10 for environmentally hazardous substances and not meeting the classification criteria of any other class shall be consigned under the entries UN No. 3530 ENGINE, INTERNAL COMBUSTION or UN No. 3530 MACHINERY, INTERNAL COMBUSTION, as appropriate.
- (f) Engines or machinery may contain other dangerous goods than fuels (e.g. batteries, fire extinguishers, compressed gas accumulators or safety devices) required for their functioning or safe operation without being subject to any additional requirements for these other dangerous goods, unless otherwise specified in RID/ADR/ADN. However, lithium batteries shall meet the requirements of 2.2.9.1.7, except ~~when otherwise specified by RID/ADR/ADN (e.g. for prototype batteries and small production runs under special provision 310 or damaged batteries under special provision 376)~~. as provided in special provision 6yy.
- (g) The engines or machinery are not subject to any other requirements of RID/ADR/ADN if the following requirements are met:
- (i) The engine or machinery, including the means of containment containing dangerous goods, shall be in compliance with the construction requirements specified by the competent authority of the country of manufacture<sup>2</sup>;
- (ii) Any valves or openings (e.g. venting devices) shall be closed during carriage;
- (iii) The engines or machinery shall be oriented to prevent inadvertent leakage of dangerous goods and secured by means capable of restraining the engines or machinery to prevent any movement during carriage which would change the orientation or cause them to be damaged;
- (iv) for UN No. 3528 and UN No. 3530:  
Where the engine or machinery contains more than 60 l of liquid fuel and has a capacity of not more than 450 l, the labelling requirements of 5.2.2 shall apply.  
Where the engine or machinery contains more than 60 l of liquid fuel and has a capacity of more than 450 l but not more than 3 000 l, it shall be labelled on two opposing sides in accordance with 5.2.2.  
Where the engine or machinery contains more than 60 l of liquid fuel and has a capacity of more than 3 000 l, it shall be placarded on two opposing sides. Placards shall correspond to the labels required in Column (5) of Table A of Chapter 3.2 and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.
- (v) for UN No. 3529:  
Where the fuel tank of the engine or machinery has a water capacity of not more than 450 l, the labelling requirements of 5.2.2 shall apply.

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<sup>2</sup>

<sup>2</sup> For example, compliance with the relevant provisions of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (Official Journal of the European Union No. L 157 of 9 June 2006, pp. 0024-0086).

Where the fuel tank of the engine or machinery has a water capacity of more than 450 l but not more than 1 000 l, it shall be labelled on two opposing sides in accordance with 5.2.2.

Where the fuel tank of the engine or machinery has a water capacity of more than 1 000 l, it shall be placarded on two opposing sides. Placards shall correspond to the labels required in Column (5) of Table A of Chapter 3.2 and shall conform to the specifications given in 5.3.1.7. Placards shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

[Option 1:

“(vi) A transport document in accordance with 5.4 is required, except for UN No. 3528 and UN No. 3530, where a transport document is only required when the engine or machinery contains more than 60 l of liquid fuels.

Option 2:

(vi) A transport document in accordance with 5.4 is required, except for UN No. 3528 and UN No. 3530, where a transport document is only required when the engine or machinery contains more than 1000 l of liquid fuels.

Option 3:

(vi) A transport document in accordance with 5.4 is required only when the engine or machinery contains more than 1000 l of liquid fuels, for UN 3528 and UN 3530, or has a water capacity of more than 1000 l, for UN 3529.

This transport document shall contain the following additional statement  
“Transport in accordance with special provision 363”.

## Proposal 4

Introduce a new special provision into Chapter 3.3, as follows:

- “6XX** (a) Vehicles assigned to UN 3166 or UN 3171 in conformity with special provisions 240 ,312 and ~~385~~ 6ZZ including trailers, as well as any dangerous goods they contain that are necessary for their operation or the operation of their equipment, when carried as a load, are not subject to any other provisions of [RID/ADR/ADN], provided the following conditions are met:
- (i) For liquid fuels, any fuel cocks between the engine or equipment and the fuel tank shall be closed during carriage unless it is essential for the equipment to remain operational. Where appropriate, the vehicles or other means of conveyance shall be loaded upright and secured against falling;
  - (ii) For gaseous fuels, the fuel cock between the gas tank and engine shall be closed and the electric contact open.
  - (iii) Metal hydride storage systems shall be approved by the competent authority of the country of manufacture, if the country of manufacture is not a contracting party to RID/ADR/ADN the approval shall be recognized by the competent authority of a contracting party to RID/ADR/ADN

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(iv) The provisions of (i) and (ii) do not apply to vehicles which are empty of liquid or gaseous fuels,

*NOTE 1: A vehicle is considered to be empty of liquid fuel when the liquid fuel tank has been drained and the vehicle cannot be operated due to a lack of fuel. Vehicle components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty of liquid fuels. In addition, the liquid fuel tank does not need to be cleaned or purged.*

*NOTE 2: A vehicle is considered to be empty of gaseous fuels when the gaseous fuel tanks are empty of liquid (for liquefied gases), the positive pressure in the tanks does not exceed 2 bar and the fuel shut-off or isolation valve is closed and secured.*

(b) 2.2.9.1.7 a) does not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the vehicle and the vehicle is manufactured and approved according to the provisions applied in the country of manufacture or country of use.

(c) 2.2.9.1.7 does not apply to lithium batteries installed in damaged or defective vehicles under the following conditions: Damaged and defective vehicles may be transported as specified in (a), if the damage or defect has no relevant impact on the safety of the battery. Otherwise the lithium battery has to be removed and transported according to SP376, unless removal is not possible under appropriate safety conditions. To tow away vehicles or in the case of not being able to verify the status of damage the vehicles on side the vehicles may also be transported as specified in (a).

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## Proposal 5

Option 1 no SP 6YY or

Option 2 Introduce a new special provision into Chapter 3.3, as follows:

**“6YY** Non-road mobile machinery<sup>1</sup> which is carried as a load and not assigned to UN 3166 or UN 3171 in conformity with special provisions 240, 312 and 6ZZ, containing fuel destined for their propulsion or the operation of any of its equipment is not subject to any other requirements of [RID/ADR/ADN], provided the following conditions are met:

The fuel may be carried in fixed fuel tanks connected directly to the vehicle engine and/or equipment. These fixed fuel tanks shall meet the legal requirements;

Where appropriate, this machinery shall be loaded upright and secured against falling.

*NOTE For the definition of non-road mobile machinery, see paragraph 2.7 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) (United Nations document ECE/TRANS/WP.29/78/Rev.3) or Article 2 of Directive 97/68/EC of the European Parliament and of the Council of 16 December 1997 on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (Official Journal of the European Communities No. L 059 of 27 February 1998).”*

2.2.9.1.7 a) does not apply when pre-production prototype batteries or batteries of a small production run, consisting of not more than 100 batteries, are installed in the machinery and the

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<sup>1</sup>

machinery is manufactured and approved according to the provisions applied in the country of manufacture or country of use.

## **Proposal 6.**

Consequential amendments:

0) Add a note in 1.1.3.1 b): “see also SP 240, 312, 363 and 385”

1) Delete 1.1.3.2 b)

2) Delete 1.1.3.3 b) and c)

3) Delete the final note in 2.2.9.1.7

4) For all entries to which SP 363 is currently assigned, delete 363 in column (6) as proposed in ECE/TRANS/WP.15/AC.1/2015/23/Add.1, page 11.

5) modify special provision 356 as follows:

**“356** Metal hydride storage systems intended to be installed in vehicles, vessels or aircrafts shall be approved by the competent authority of the country of manufacture<sup>1</sup> before acceptance for carriage. The transport document shall include an indication that the package was approved by the competent authority of the country of manufacture<sup>1</sup> or a copy of the competent authority of the country of manufacture<sup>1</sup> approval shall accompany each consignment.

*1 If the country of manufacture is not a Contracting Party to ADR, the approval shall be recognized by the competent authority of a Contracting Party to ADR.”*

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