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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

Geneva, 19–23 September 2016

Item 6 of the provisional agenda

Reports of informal working groups

Report on the informal working group on the transport of waste electrical and electronic equipment containing lithium batteries

Transmitted by the Government of Germany^{1, 2}

Introduction

1. The informal working group on the transport of waste electrical and electronic equipment containing lithium batteries held its second meeting on 27 and 28 April 2016 in Bonn. The (WEEE) report of the informal working group is submitted in the annex.

Proposal

2. The Joint Meeting is asked to take note of the annexed report and decide on the proposed amendments (paragraph 29).

¹ In accordance with the programme of work of the Inland Transport Committee for 2016-2017, (ECE/TRANS/2016/28/Add.1 (9.2)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2016/19.

Informal working group on the transport of Waste Electrical and Electronic Equipment containing lithium batteries

27-28 April – Bonn - Germany

Participants

Name	Organisation	Present	Apologies
Binnemans, Peter	Eucobat aisbl	X	
Fawcett, Asa	Stena Technoworld AB	X	
Giefer, Cornelius	BDE	X	
Gilabert, Manuel	Office fédéral des routes CH	X	
Grönlund, Miina	Finnish Transport Safety Agency		X
Gunnarsdottir, Sjöfn	Policy advisor transport of dangerous goods		X
Korhel, Michel	Ministere de L'ecologie	X	
Krischok, Frank	BAM	X	
Kross, Sebastian	Stiftung GRS Batterien		X
Mahesh, Soedesh	RIVM	X	
Mairs, John	Dept for Transport UK	X	
Raucq, Philippe	Service Public Wallon	X	
Schüler, Roland	Remondis Deutschland	X	
Schwan, Gudula	BMVI	X	
van Heeswyck, Edouard	Ministere de l'Ecologie		X
Van Praet, Willy	FEBEM Belgium	X	
Verberckmoes, Els	Recupel	X	
Vickery, Graeme	DEFRA	X	
Vizy, Karoly	Ministère de l'Ecologie	X	
Westerfeld, Jörg	Remondis	X	
Wiaux, Jean-Pol	Recharge aisbl	X	
Wustrau, Albrecht	SNCA	X	

Agenda

1. Mrs. Gudula Schwan presents the draft agenda, which is approved by all participants.

Opening/Welcome

2. Mrs. Gudula Schwan welcomes all participants to Bonn.
3. Mrs. Gudula Schwan gives an overview of the status of the discussions on the issue within the Joint Meeting.

Review of answers to questionnaire on lithium batteries in WEEE

4. The informal working group reviews the received answers to the questionnaire on lithium batteries in WEEE.

5. John Mairs adds that the United Kingdom esteems that, while the ADR regulations apply to the transport of WEEE containing lithium batteries, this does not reflect the reality, as this transport doesn't imply any risk.

6. The general conclusions of the answers can be summarized as follows:

The figures of the different countries are not comparable, as the composition of the collected streams are not comparable.

The limit of 333kg per carriage doesn't pose any problem. In most countries, a quality assurance system is in place.

Most cooling and freezing appliances do not contain lithium batteries. Some exceptional appliances contain a lithium metal battery, either a button cell, either a cylindrical battery.

Televisions and monitors can be split up in two different categories: with and without cable.

Lamps do not contain lithium batteries.

Most large household appliances do not contain lithium batteries, except some appliances which contain a back-up battery.

Small equipment can be split up in different categories, equipment with lithium metal batteries as main power source (with a very low lithium content), equipment with only a lithium back-up battery, equipment with a lithium ion battery as main power source and equipment without any lithium batteries.

7. Given the specificity of the transport of WEEE and of waste batteries, the informal working group recommends to split up SP 636 in two special provisions, one for batteries and another one for equipment.

Lower threshold limit for further facilitations for lithium batteries in WEEE

8. The answers to the questionnaire indicate that the transport of equipment containing only a back-up battery doesn't pose any risk. A quality assurance system is in place and the transported quantities are far below the limits. The lithium content in these back-up batteries is low (<1g) and they are fully enclosed by the equipment. All members of the informal working group agree that this equipment could be exempted from application of ADR. As it is impossible to describe the equipment, the informal working group recommends to exempt the batteries and cells, contained in equipment, which are not used as main power sources, and to cite some examples of such equipment.

9. The agreed proposal implies that transport of waste equipment that uses lithium batteries as main power source can be exempted if the batteries are removed from the equipment.

10. Some members esteem that the exemption could be extended to other equipment containing lithium button cells which are used as main power sources, like watches and calculators, or even to all WEEE. The informal working group does not agree with this proposal, as in this case the ratio between the weight of the batteries and of the equipment

is fundamentally different. The loading and unloading of the WEEE might create a safety risk.

11. Mr. Manuel Gilabert proposes to add the additional condition that the equipment shouldn't be damaged in order to protect the batteries. The informal working group decides to add in the proposed text the same condition as in P909, that the batteries are afforded protection by the equipment in which they are contained.

12. Specific collection receptacles have been developed by the WEEE schemes in the different countries. These receptacles offer sufficient protection during collection and transport, but they don't meet completely the applicable requirements of packing instruction P909.

13. The informal working group agrees that additional mitigation of the transport conditions for the WEEE (that is not exempted) can be recommended.

14. The informal working group agrees that for the transport of WEEE containing lithium batteries, the WEEE can be packed according to P909 or in specially designed collection receptacles.

15. The specially designed collection receptacles should be constructed of suitable material and be of adequate strength and design in relation to the packaging capacity and its intended use. The packagings should however not need to meet the requirements of 4.1.1.3.

16. The informal working group discusses whether it would be desirable to add a condition that damage to the equipment and loss of the content should be prevented. The informal working group agrees that it is not possible to prevent any damage to the equipment, as the receptacles are filled by consumers in public areas without supervision of trained staff. It is neither possible to avoid misuse of the receptacles, e.g. when consumers throw in other goods or loose batteries. The practice shows that this misuse is very limited. The informal working group agrees that an additional condition should be included, however limited to the minimization of the damage to the equipment and to the prevention of loss of content. Openings designed for filling are acceptable if they are constructed as to prevent loss of content.

17. A lower limit than 333 kg of lithium batteries per carriage would not increase the safety, as the mass of lithium batteries contained in WEEE is relatively low. The informal working group decides not to include this condition in its proposal.

18. A possible requirement of an approval by the competent authorities would be an obstacle for multimodal transport and be a step backwards. The informal working group decides not to include this condition in its proposal.

19. The exclusion of specific categories of WEEE with heavier batteries, e.g. power tools or e-bikes, would in practice not be enforceable. Furthermore, this type of equipment is mainly collected through other channels. The informal working group decides not to include this condition in its proposal.

20. In order to clarify the reference to the statistical methods in the Note, the informal working group decides to replace the words "in the mix" by the words "in the equipment from private households".

21. The agreed proposal implies that bulk transport of WEEE containing lithium batteries is not allowed. There is however no limit on the content of the receptacles.

22. In the framework of the discussion on special provision 636, the informal working group also reviews the current SP 636(a).

23. The text of SP 636(a) is based on similar provisions in the International Civil Aviation Organization (ICAO) Technical Instructions, and finds its origin in some incidents

during the 1970's with some specific lithium metal batteries (containing sulphur dioxide, sulphuryl chloride or thionyl chloride) when in low voltage state. Since the late 1970's, the cell and battery designs have significantly improved. The tests of the Manual of Tests and Criteria have been updated since then and now include a forced discharge. The informal working group agrees that the special provision no longer has an added value and can be removed from the text.

Transport conditions for collected batteries

24. The informal working group discusses the proposal of Switzerland to allow transport under SP 636 only if lithium batteries are transported together with other non lithium batteries and that share of lithium batteries should not exceed 3 % of the total load.

25. Eucobat points out that this proposal would have an important impact on the existing collection systems and would require a remodeling of the schemes. Furthermore, it would be difficult to apply in practice.

26. Other participants are also not supportive of the proposal as presented and esteem that further discussions should take place only on the basis of further information, but that for the time being there is no need to have another informal working group meeting. Eucobat will provide additional information on the actual situation.

27. The informal working group recommends not to amend the criteria of the existing criteria of SP 636 for waste batteries.

Conclusions

28. The informal working group recommends to:

Remove SP 636(a), as it no longer has an added value;

Split up SP 636(b) in two special provisions, one for batteries, another one for equipment;

Fully exempt the batteries and cells, contained in equipment, which are not used as main power sources;

Foresee additional mitigation of the transport conditions for the WEEE that is not exempted;

Not amend the criteria of the existing special provision 636(b) for waste batteries.

29. The informal working group proposes following text for the two special provisions:

For Batteries

Amend SP 636 to read as follows:

"Up to the intermediate processing facility lithium cells and batteries with a gross mass of not more than 500 g each or lithium ion cells with a Watt-hour rating of not more than 20 Wh, lithium ion batteries with a Watt-hour rating of not more than 100 Wh, lithium metal cells with a lithium content of not more than 1 g and lithium metal cells with an aggregate lithium content of not more than 2 g, not contained in equipment, collected and handed over for carriage for sorting, disposal or recycling are not subject to the other provisions of RID/ADR/ADN including special provision 376 and paragraph 2.2.9.1.7, if they meet the following conditions:

(a) The provisions of packing instruction P909 of 4.1.4.1 apply except for the additional requirements 1 and 2;

(b) A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per transport unit does not exceed 333 kg;

NOTE: The total quantity of lithium cells and batteries in the mix may be assessed by means of a statistical method included in the quality assurance system. A copy of the quality assurance records shall be made available to the competent authority upon request.

(c) Packages are marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING" as appropriate.".

For equipment

Insert a new special provision xxx:

"xxx (a) Lithium cells or batteries installed in equipment from private households collected and handed over for carriage for depollution, dismantling, recycling or disposal are not subject to the other provisions of RID/ADR/ADN including special provision 376 and paragraph 2.2.9.1.7 when:

- they are not the main power source for the operation of the equipment in which they are contained;
- the equipment in which they are contained does not contain any other lithium cell or battery used as the main power source; and
- they are afforded protection by the equipment in which they are contained.

Examples for cells and batteries covered by this paragraph are button cells used for data integrity in household appliances (like refrigerators, washing machines, dishwashers) or in other electrical or electronic equipment .

(b) Up to the intermediate processing facility lithium cells and batteries contained in equipment from private households not meeting the requirements of (a) collected and handed over for carriage for depollution, dismantling, recycling or disposal are not subject to the other provisions of RID/ADR including special provision 376 and paragraph 2.2.9.1.7, if they meet the following conditions:

(i) They are packed in accordance with packing instruction P 909 of 4.1.4.1 except for the additional requirements 1 and 2; or they are packed in strong outer packagings, e.g. specially designed collection receptacles, which meet the following requirements:

- The packagings shall be constructed of suitable material and be of adequate strength and design in relation to the packaging capacity and its intended use. The packagings need not to meet the requirements of 4.1.1.3;

- Appropriate measures shall be taken to minimize the damage of the equipment when filling and handling the packaging, e.g. use of rubber mats; and

- The packagings shall be constructed and closed so as to prevent any loss of contents during carriage, e.g. by lids, strong inner liners, covers for transport. Openings designed for filling are acceptable if they are constructed as so to prevent loss of content.

(ii) A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per transport unit does not exceed 333 kg;

NOTE: The total quantity of lithium cells and batteries in the equipment from private households may be assessed by means of a statistical method included in the quality assurance system. A copy of the quality assurance records shall be made available to the competent authority upon request.

(iii) Packages are marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING" as appropriate. If equipment containing lithium cells or batteries is carried unpackaged or on pallets in accordance with packing instruction P 909 (3) of 4.1.4.1, this mark may alternatively be affixed to the external surface of the wagons/vehicles or containers.

NOTE: "Equipment from private households" means equipment which comes from private households and equipment which comes from commercial, industrial, institutional and other sources which, because of its nature and quantity, is similar to that from private households. Equipment likely to be used by both private households and users other than private households shall in any event be considered to be equipment from private households.

Consequential Amendments

In the dangerous goods list, for UN 3091 and 3481 replace "636" by "xxx".
