Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods **1 September 2015**

Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 15–25 September 2015
Item 4 of the provisional agenda
Reports of informal working groups

Report on the Working Group on the transport of WEEE containing lithium batteries

Transmitted by the Government of Germany

Introduction

1. The report of the informal working group on the transport of waste electrical and electronic (WEEE) equipment containing lithium batteries is submitted in annex I.

2. The working group first addressed the current situation. Several presentations were given regarding approaches to transport WEEE containing lithium batteries in compliance with the relevant regulations and regarding to risk assessment aspects. To a large extent, waste electrical equipment is still carried without observing dangerous goods requirements, but there is a growing awareness of implementing these requirements. The efforts to implement the provisions focus primarily on types of equipment that typically contain lithium batteries or contain larger percentages of lithium batteries. Appliances such as screens or large household appliances (e. g washing machines) are often treated as if they generally did not contain lithium batteries.

3. The working group developed a proposal for amending the wording of special provision 636, see annex I, paragraph 48 of the report of the working group. The proposed amendments include the following clarifications regarding the scope and marking requirements:

- Intermediate processing facility: The interpretation of the term intermediate processing facility raises questions time and again. The intermediate processing facilities for waste electrical and electronic equipment are different from the intermediate processing facilities for lithium batteries and different treatment processes take place in the different intermediate processing facilities. This is taken account of by naming the different treatments.
- Size of the batteries in waste electrical and electronic equipment: The weight or Watt-hour rating or lithium content of battery or cell contained in equipment cannot be verified within the framework of the collection of equipment. For this reason, the threshold of 500g or 2g/1g lithium content or 100Wh/20Wh should not apply for the collection of equipment. Instead an explicit restriction to equipment from private households should be introduced and a corresponding explanation as to what is meant by that should be inserted.
- Marking: As lithium batteries in equipment, in accordance with the applicable provisions, may also be carried unpackaged, it is not clear how the required

marking of the package can be applied in this case; therefore, an alternative for marking the cargo transport unit is proposed.

4. The working group also discussed the question of a lower threshold limit below which facilitations

for carriage of equipment could be granted. Large household appliances with a small backup battery (e.g. washing machine with a button cell), for instance, are also subject to dangerous goods provisions. However, in order to be able to draw conclusions regarding possible risks, further information about the type and amount of the batteries used in different types of equipment has to be obtained from the industry. Based on the result of the working group, Germany has drawn up a questionnaire which is enclosed as Annex II. The working group has already named a few associations that could assist and should have relevant information, see paragraph 46 of the report of the working group; the list, however, is non-exhaustive. If possible, the questionnaire should not be answered by individual undertakings but in a coordinated manner by the relevant associations.

5. The working group recommends that another meeting of the working group will be held to discuss, based on the additional information, the question of a lower threshold limit where exemptions may be granted.

Proposal

6. The Joint Meeting is asked to take note of the annexed report and decide on the proposed amendments to special provision 636 (see annex I, paragraph 48) as well as on the continuation of the work.

Annex 1

Working Group on the transport of Waste Electrical and Electronic Equipment containing lithium batteries June 8th/9th 2015 – Hamburg

Participants

First Name	Last Name	Organization
Holger	Schnaas	Berode GmbH
Frank	Krischok	Bundesanstalt für Materialforschung und -prüfung (BAM)
Gudula	Schwan	Bundesministerium für Verkehr und digitale Infrastruktur
Dirk	Schöps	Bvse
Philippe	Raucq	Direction Générale de l'Agriculture, des Ressources Naturelles et de l'Environnement
David Manuel	Gilabert	Eidgenössisches Departement für Umwelt, Verkehr, Energie und Kommunikation (UVEK) - Bundesamt für Strassen ASTRA
Peter	Binnemans	Eucobat
Nathalie	Buijs	FEAD European Federation of Waste Management
Sandra	Giern	FEAD European Federation of Waste Management
Kristina	Wågman	FEAD European Federation of Waste Management
Miina	Grönlund	Finnish Transport Safety Agency
Sebastian	Kross	GRS Service GmbH
Tobias	Schulze Wettendorf	GRS Service GmbH
Kàroly	Vizy	Ministry of Ecology, Sustainable Development and Energy
Jean-Pol	Wiaux	Recharge
Els	Verberckmoes	Recupel
Jörg	Westerfeld	Remondis Elektrorecycling GmbH
Soedesh	Mahesh	RIVM – National Institute for Public Health and the Environment
Alois	Grinschgl	Saubermacher
Albrecht	Wustrau	SNCA/Cellule TMD

Camilla	Oscarsson	Swedish Civil Contingencies Agency (MSB)
Andreas	Hilbert	ZVEI

On behalf of GRS Service GmbH, Mr. Sebastian Kross welcomes all participants at the working group.

Mr. Sebastian Kross presents the draft agenda, which is approved by all participants.

Opening & mandate of the working group

1. Mrs. Gudula Schwan summarizes the status of the current discussions within the RID/ADR/ADN Joint Meeting. At the last meeting (Geneva, 15th-19th September 2014), a preliminary discussion was held on the carriage of waste electrical and electronic equipment (WEEE). As WEEE carried within the framework of Directive 2012/19 may comprise dangerous goods, in particular lithium batteries, special conditions of carriage in RID/ADR/ADN or exemptions should be considered.

2. Before deciding on how to proceed, Germany was asked to draw up a questionnaire, in order to take stock of all the experiences of those states that have already had experience in this field. This questionnaire was sent out in November 2014. Germany received answers to this questionnaire from a total of 20 states or organizations. In most countries, the dangerous goods legislation is not applied to these carriages and the receptacles are not compliant with the relevant packing instructions. It was not clear whether and when the collected WEEE is sorted into different fractions. Information on the share of lithium batteries per category would need to be obtained

3. A proposal to amend special provision 636(b) was presented to the Joint Meeting:

"(b) 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, whether or not contained in equipment, collected and handed over for carriage for disposal or recycling as well as

- *lithium cells and batteries in equipment collected and handed over for carriage for disposal or recycling as waste electrical or electronic equipment under Directive 2012/19/EU,*

together with or without non-lithium cells or batteries, 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. The provisions of packing instruction P 909 of 4.1.4.1 apply except for the additional requirements 1 and 2;

ii. A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per wagon or large container/ 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.*

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

4. The Joint Meeting decided to discuss the issue transport of Waste Electrical and Electronic Equipment containing lithium batteries in a specific Working Group.

Introduction into the subject

5. Mr. Sebastian Kross gives an overview of the relevant existing regulations:

- Transport of dangerous goods legislation
- Directive 2012/19/EU of The European Parliament and of the Council of 4 July 2012 on Waste Electrical And Electronic Equipment (WEEE)
- Directive 2006/66/EC of 6 September 2006 of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators.

He also summarizes the current status of discussions to this topic, which have been held at UN level and at national level in the various countries.

6. The Working Group will discuss two different possible scenarios:

- Scenario 1: The legislation on transport of dangerous goods can be lightened for WEEE containing small batteries that imply a minor safety risk. In this case, a clear definition of the criteria for exemption from the legislation is required.
- Scenario 2: WEEE containing lithium batteries should always be transported under the conditions defined by the legislation on the transport of dangerous goods. In this case, a clarification is required of
  - the criteria for "equivalent protection by the equipment" (for unpackaged carriage)
  - the definition of "strong outer packaging"
  - the definition of "intermediate processing facility"

- the quantity information in transport documents
- the marking requirement for unpackaged carriage
- …

Current situation – examples of implementation in practice

(a) Possible solution for an ADR-compliant transport of WEEE (Els Verberckmoes)

7. Mrs. Els Verberckmoes gives an overview of the activities of Recupel, the Belgian compliance organization for WEEE. Today, the collected WEEE is sorted at the collection facilities in 6 different fractions:

- Large Household Appliances (collected as single units, transported in 38m^3 containers)
- Cooling & Freezing Appliances (collected as single units, transported in 38m^3 containers)
- TV and computer screens (collected and transported in box-pallets)
- Lamps
- Smoke detectors
- Other appliances (collected and transported in box-pallets)

8. According to an assessment, together with the Belgian authorities, lithium batteries can be found mainly in the "Other Appliances". The current box-pallets are considered as not compliant with ADR, because of the gap between the bars and the opening at the top.

9. Removal of the batteries at the collection points is considered as not feasible, as it is not always easy to remove the battery, it can create a dangerous situation for the consumer and it is not always clear whether the equipment contains a battery. The removal of the battery is considered a part of the treatment process, and therefor requires an authorization.

10. Separation of the WEEE containing batteries is neither feasible, as a correct sorting can not be guaranteed and a higher concentration of the batteries increases the risk.

11. Recupel has decided to develop a new receptacle, compliant with ADR 2015, which is acceptable for all users and operators.

12. Mrs. Gudula Schwan asks whether Cooling & Freezing Appliances are considered as dangerous goods and how it can be guaranteed that the appliances only contain batteries of maximum 500g. Mrs. Els Verberckmoes answers that Cooling & Freezing Appliances do not contain lithium batteries. According to the consulted ADR experts, the household appliances do not contain batteries of more than 500g, except e-bikes. Mr. Jean-Pol Wiaux adds that cordless power tools can contain lithium batteries up to 1kg, but these appliances are strictly professional.

(b) Possible process for the collection of WEEE in Germany (Dirk Schöps)

13. Dr. Dirk Schöps presents the concept of a possible solution in Germany. The collection of WEEE is mainly taking place at the municipalities in 5 fractions:

- Large Household Appliances
- Cooling & Freezing Appliances
- ICT Equipment & Consumer Electronics
- Lamps
- Other appliances

14. All WEEE is collected and transported in bulk (containers). The consumers are asked to remove the "non-enclosed" batteries, in particular large batteries. The appliances are sorted in "corded" and "cordless". The staff of the collection point performs a visual inspection of the consignment. The "corded" equipment is transported in bulk. The "cordless" equipment is transported in ADR compliant transport containers (strong outer packagings).

(c) Qualified collection of waste batteries from WEEE – experience from a pilot project (Tobias Schulze Wettendorf)

15. Tobias Schulze Wettendorf presents the results of a German pilot project on the qualified collection of waste batteries from WEEE.

16. In order to ensure a safe collection of waste batteries, GRS Services GmbH esteems that it is mandatory to differentiate between the following three safety categories:

- Common batteries: non-critical mixes and mono-fractions of ZnC, Zn Air, AlMn, Pb, NiCd and NiMH batteries
- High energy batteries: mono fractions of primary and secondary lithium cells and batteries, potentially also NiMH and/or future alternative technologies
- Damaged high energy batteries: damaged lithium batteries and cells of more than 500g, potentially also future alternative technologies

17. A new safety concept has been put in place to test in a 12 month pilot project in collaboration with public disposal facilities. At the collection point, batteries were collected separately from WEEE. Optimized training material was developed for the staff at the collection points. Some qualified collection points were implemented to handle damaged and defective lithium batteries of more than 500g.

18. The main conclusions are that the safety concept is practical and easy to implement into commercial operations at public disposal facilities and retail outlets and that the process for the collection of waste batteries from WEEE has been tested successfully. Main risk factor with regard to the collection of batteries and WEEE containing batteries are "big" high-energy batteries (e.g. from E-bikes,...). Even a partial and incomplete removal of "big" high-energy batteries from WEEE significantly reduces the overall risk potential. Damaged WEEE containing "big" high-energy batteries need to be collected and transported separately. The majority of "small" waste batteries in WEEE are damage-proof and short circuit protected by the means of their design. The quantity of "small" waste batteries in WEEE containers for small appliances does not pose a safety risk.

19. Mr. David Manuel Gilabert asks whether the sorting in "corded" and "cordless" equipment is considered to be effective. He esteems that a concentration of high energy batteries increases the risk, while they might be diluted in a mix of appliances. Dr. Dirk Schöps answers that the transport of a mix of equipment increases the risk of damaging during the transport. In some cases it is however recommended to leave the battery in the appliance. He esteems that it is positive to sort the WEEE containing batteries from the other WEEE. A remaining problem concerning the sorting and removal are the integrated button cells. Mr. Sebastian Kross adds that the logistic infrastructure for WEEE has to be taken into account. ADR compliant transport requires small containers. Mrs. Gudula Schwan remarks that one can never be sure that an appliance does not contain batteries.

(d) Discussion

20. Mrs. Camilla Oscarsson communicates that WEEE is collected in Sweden mainly through the municipalities. The transport of the WEEE is not ADR compliant, and is done in metal cages. After the removal of the batteries, these are transported according to ADR. She esteems that sorting of WEEE containing batteries is not feasible.

21. Mrs. Gudula Schwan remarks that the sorting of the WEEE appliances and the removal of the batteries at the collection point are not a recommendation by the German authorities, as dangerous goods regulation covers both, the transport of WEE containing batteries as well as the transport of removed batteries .

22. Mrs. Miina Grönlund communicates the collection and transport of WEEE in Finland is comparable to Sweden. However, collection is also organized at the retail.

23. For the Swiss situation, Mr. David Manuel Gilabert refers to the answers to the German questionnaire. ADR is today not applied for the transport of WEEE. Collection of WEEE is done in box-pallets. The removal of the batteries takes place at the treatment plants.

24. Mr. Kàroly Vizy communicates that ADR is not applied for the transport of WEEE in France.

25. Concerning the sorting of “corded” and “cordless” equipment, Mr. Jean-Pol Wiaux asks how this is applied when the consumers has removed the cord. Dr. Dirk Schöps replies that qualified personnel are required to distinguish corded from cordless equipment. Mr. Sebastian Kross replies that the batches of sorted corded appliances are not completely free of lithium batteries. The objective is to limit the risks.

Assessment of hazards related to lithium batteries in WEEE

Estimate of the share of integrated, non-rechargeable lithium metal batteries (button cells) in the total quantity of WEEE collected (Andreas Hilbert)

26. Mr. Andreas Hilbert presents an estimate by ZVEI of the share of integrated, non-rechargeable lithium metal batteries (button cells) in the total quantity of WEEE collected. Based upon the market data of electrical equipment put on the market and an analysis of the WEEE collected, ZVEI esteems that in the WEEE categories containing most batteries, the weight of the batteries in the total weight of collected WEEE is limited to 0,71% - 0,82%.

27. ZVEI esteems that only a simple sorting is possible at the collection points. If the cordless appliances are sorted out, all high performance batteries are separated. The corded equipment only contains small support batteries, usually no lithium batteries. For the support batteries, the housing of the device should be considered to be the best possible packaging. For this reason, ZVEI asks the support for a special regulation for WEEE containing only small support batteries.

Model for the assessment of hazard potentials for lithium batteries

28. Mr. Holger Schnaas presents the model for the assessment of hazard potentials for lithium batteries, developed for GRS Services GmbH. This model mainly focuses on the heat hazard and the mitigation of it through dimensioning of packaging and filler material. Starting with an initial heat energy of the battery (thermal runaway), the heat flow through a maximum of four layers is modeled over time until releasing the heat into the environment.

29. WEEE containing lithium batteries could be modeled as one battery to estimate their heat hazard potential in total (excluding open fire hazard). The model could be used to show the mitigating effect of a high gross mass of the WEEE compared its containing battery mass/energy regarding heat hazard. Worst case assumptions allow the estimation of a maximum battery quantity (based on their electrical energy content) for a safe transport, depending on the packaging system used.

30. The calorific values of flammable contents (solvents, polymers, etc.) in lithium cells may be up to 10 times higher than their electrical energy. While mitigating the heat hazard, surrounding structures (i.e. housing, wiring, WEEE, etc.) can even intensify the open fire hazard when enough oxygen is in place. Therefore it is recommended to, whenever possible, dismount potentially defective lithium batteries from WEEE and use existing safe ways for their transport.

31. Mr. Jean-Pol Wiaux asks whether it would be feasible to create one layer with four materials instead of four layers. Mr. Sebastian Kross replies that this has to be studied.

32. Mrs. Gudula Schwan asks whether it would be recommended to exclude defective and damaged lithium batteries from SP 636b. Mr. Holger Schnaas replies that for small batteries, the WEEE is the best possible packaging. Mr. Sebastian Kross adds that the tool has been developed for big batteries. Small batteries are a totally different situation. In particular, the portion of surrounding material is completely different. The tool has not yet been applied to WEEE containing batteries neither.

33. Mrs. Camilla Oscarsson asks whether some practical testing has been done. Mr. Sebastian Kross answers that the model is purely based upon physical/thermodynamic principles and therefore only delivers theoretical results. Practical tests have not been conducted so far.

Discussion

34. Mrs. Gudula Schwan reminds some of the conclusions of the German questionnaire:

- For the most part, dangerous goods legislation is not applied. The awareness of the parties involved needs to be raised, and they need to be informed; practice needs to be adapted to the regulations.
- WEEE is often collected in containers. When WEEE is collected in bulk without load securing in containers, this is a case of carriage in bulk that is not permitted under the current regulations.
- Packing instruction P 909 (3) contains 2 options:

(a) strong outer packaging;

(b) unpackaged carriage if the lithium batteries are afforded sufficient protection by the equipment.

- Wire-mesh boxes/crates and containers are not outer packaging within the meaning of the regulations, so this is a case of unpackaged carriage. Where the batteries are fitted to the outside of the device and are not completely enclosed in the device, it is questionable whether the batteries are afforded sufficient protection by the equipment.
- It is also possible to carry damaged batteries under SP 636. It is questionable whether unpackaged carriage is a suitable packing method for these batteries.
- Where depot containers (collection containers in public areas) are used, these containers are not usually used for carriage, but the WEEE is transferred from them into a skip or another vehicle. This logistics operation includes inadmissible carriage

in bulk. Nevertheless, these receptacles result in higher collection rates and help to prevent disposal in residual refuse.

- In some cases, several collection points are consolidated. This involves transfer operations that might damage WEEE and thus the batteries.
- Where sorting in accordance with the categories of Directive 2012/19/EU is performed, consideration could be given to establishing different carriage requirements for the different categories. In order to differentiate according to categories of waste equipment, information on the share of lithium batteries per category would need to be obtained.
- The exemption in accordance with SP 636 only applies to "small" batteries. Batteries ≥ 500 g and/or ≥ 100 Wh/≥ 2 g of lithium cannot, however, must be sorted out reliably.
- The exemption in accordance with SP 636 requires that packages be marked. This provision is not suitable for unpackaged carriage.
- The exemption in accordance with SP 636 requires that a quality assurance system be in place to ensure that the total amount of lithium batteries per transport unit does not exceed 333 kg. The figures available to date suggest that this limit can be met easily and that the quality assurance programme can be ensured by means of the return systems.
- It has to be clarified how the term "intermediate processing facility" is to be interpreted. In Germany's opinion, purely sorting procedures, as performed e.g. in recycling centers, should not be seen as intermediate processing. (Note: for the treatment of waste electric equipment under Directive 2012/19/EU, the following definition under Article 3 of Directive 2008/98/EC applies: "Treatment" means recovery or disposal operations, including preparation prior to recovery or disposal).
- When WEEE is not carried under SP636, the quantity of the batteries has to be indicated in the transport document in accordance with Note 2 in paragraph 5.4.1.1.1 (f). However, this quantity is not known for WEEE.

35. Mrs. Gudula Schwan asks how transport should be organized when appliances containing batteries are collected for reuse. Mr. Jean-Pol Wiaux replies that these appliances are not transported for recycling or disposal.

Review of existing provisions

36. Special Provision 636a is not considered at this point.

37. Special Provision 636b applies to the transport up to the intermediate processing facility. Mrs. Gudula Schwan esteems that the definitions of the directives are too narrow and that the actual text leaves room for interpretation. There are mainly three options:

- Keep the text as it is.
- Define the "intermediate processing facility".
- Leave this condition out of the text.

38. Mr. David Manuel Gilabert esteems that leaving out the reference to the intermediate processing facility would imply that the dilution factor is missing.

39. For the definition of "intermediate processing facility", a distinction could be made between waste batteries and WEEE. For waste batteries, the sorting facility could be

considered to be the “intermediate processing facility”. For WEEE, the dismounting/depollution facility could be considered to the “intermediate processing facility”.

40. Special Provision 636b only applies to “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 batteries with an aggregate lithium content of not more than 2 g”. In practice, it is not feasible to check these criteria for WEEE, as the battery is contained in the equipment and not always accessible. Recharge can provide a chart of appliances and the average weight of the contained batteries.

41. Germany had proposed to exempt WEEE containing batteries (lithium cells and batteries in equipment collected and handed over for carriage for disposal or recycling as waste electrical or electronic equipment under Directive 2012/19/EU) from this weight or Wh criterion. However, this proposal cannot be applied in the countries that are not part of the EU.

42. After discussion, the members of the Working Group agree on following proposal:

"(b) 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, ~~whether or~~ not contained in equipment, collected and handed over for carriage for sorting, disposal or recycling, as well as*
- *lithium cells and batteries contained in equipment from private households collected and handed over for carriage for depollution, dismantling, recycling or disposal*

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;*

~~together with or without non lithium cells or batteries,~~ 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. The provisions of packing instruction P 909 of 4.1.4.1 apply except for the additional requirements 1 and 2;

ii. A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per wagon or large container/ 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.*

iii. Packages are marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING" as appropriate. If equipment containing lithium batteries is carried unpackaged or on pallets in accordance with packing instruction P 909 (3), this marking may

alternatively be affixed to the external surface of the wagons/vehicles or containers."

43. It appears that there is a difference of interpretation between the different national authorities concerning the concept of "unpackaged". Germany esteems that if no strong outer package is used, the parcel should be considered to be unpackaged. A transport in a crate is then "unpackaged". Most other countries esteem that a crate is a package, but not a strong outer package.

44. Mr. Sebastian Kross adds for consideration that the proposed amended wording for SP 636 implicitly also allows the transport of unpackaged WEEE containing lithium batteries > 500g (including damaged ones) without the need for short circuit protection or for measures to avoid excessive movement. As batteries could always come off the equipment during transport, it is of particular importance to pack batteries weighing 500 g or more separately from WEEE in order to prevent safety risks.

45. Mr. Sebastian Kross communicates that the latest amendment of the German transposition of the WEEE directive, that is currently in the process of being ratified, imposes a requirement for the end-users to remove batteries from WEEE, if they are easy to separate. A similar discussion is taking place in Austria.

46. The question is discussed whether an exemption from the legislation on transport of dangerous goods is feasible for small batteries (button cells) in large appliances, in order to facilitate the bulk transport of this WEEE. Before a decision on possible lightening and thresholds can be taken, a scientific assessment is required of the quantities and weight of lithium batteries in the various WEEE categories (Annex III of the WEEE directive) and their purpose. Possible criteria for the lightening of the legislative conditions are:

- WEEE category (see annex III of the WEEE directive)
- Quality assurance system in place to ensure the compliance with certain thresholds (e.g. total weight per carriage)
- Function of the battery
- Function of the appliance.

The industry associations are invited to provide relevant information. Mrs. Gudula Schwan will make up a first draft for an appropriate table at the end of July 2015. The members of the Working Group are invited to comment on this draft before the end of August 2015. Following associations will be consulted:

- CECED Categories 1, 4
- Orgalime Categories 2, 4, 6
- WEEE Forum Categories 1-6
- DigitalEurope Categories 2, 4, 6
- Recharge Catogories 1-6

47. If WEEE is not transported according to Special Provision 636b, Provision 5.4.1.1 requires that the transport documentation mentions the total weight of dangerous goods. As the weight of the batteries contained in WEEE is not measureable, it is impossible to comply with this provision in practice. Following text is proposed as a possible solution:

"For equipment containing lithium batteries, collected and handed over for carriage for depollution, dismantling, recycling or disposal, alternatively the gross mass of the equipment may be indicated."

There is no agreement within the Working Group on this proposal.

Summary of working group results & definition of further actions

48. The members of the Working Group agree on following proposal for a rewording of Special Provision 636b:

"(b) 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, ~~whether or~~ not contained in equipment, collected and handed over for carriage for sorting, disposal or recycling, as well as*
- *lithium cells and batteries contained in equipment from private households collected and handed over for carriage for depollution, dismantling, recycling or disposal*

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;*

~~together with or without non-lithium cells or batteries,~~ 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. The provisions of packing instruction P 909 of 4.1.4.1 apply except for the additional requirements 1 and 2;

ii. A quality assurance system is in place to ensure that the total amount of lithium cells or batteries per wagon or large container/ 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.*

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

49. The group concluded that further work is necessary on the issue of a lower threshold limit. Before a decision on possible lightening and thresholds can be taken, a scientific assessment is required of the quantities and weight of lithium batteries in the various WEEE categories (Annex III of the WEEE directive) and their purpose. Possible criteria for the lightening of the legislative conditions are:

- WEEE category (see annex III of the WEEE directive)
- Quality assurance system in place to ensure the compliance with certain thresholds (e.g. total weight per carriage)
- Function of the battery
- Function of the appliance.

The industry associations are invited to provide relevant information. Mrs. Gudula Schwan will make up a first draft for an appropriate table at the end of July 2015. The members of the Working Group are invited to comment on this draft before the end of August 2015. Following associations will be consulted:

- CECED Categories 1, 4
- Orgalime Categories 2, 4, 6
- WEEE Forum Categories 1-6
- DigitalEurope Categories 2, 4, 6
- Recharge Catogories 1-6

50. There is no agreement within the Working Group on a proposal to modify Provision 5.4.1.1. , which requires a review.

51. A report of this meeting will be presented to the Joint Meeting. The Working Group recommends to the Joint Meeting to organize a second Working Group meeting to review the information received from the associations.

Wrap-up & closure

Annex 2

Questionnaire

1. Introduction:

Waste electrical and electronic equipment containing lithium batteries is subject to dangerous goods provisions. In order to make the collection and carriage of waste electrical and electronic equipment practicable and safe, the Joint Meeting is currently addressing the question as to whether the existing provisions should be updated. An informal working group of the Joint Meeting has met in this connection. One of the results of this meeting was that the question as to whether there should be additional facilitations for the carriage of WEEE should be considered further. For instance, large household appliances with a small backup battery (e.g. washing machine with a button cell) or lots of electrical and electronic equipment containing only a minimal percentage of lithium batteries are also subject to dangerous goods provisions. In order to be able to make statements about possible risks, information about the type and amount of the batteries used in different types of equipment is needed as a basis for further discussion.

The industry concerned is therefore asked to provide information about lithium batteries in WEEE, if possible. This information is to be entered in the matrix below.

2. Matrix

Information on contained lithium batteries/cells in WEEE **Type/category of WEEE[1]**	**Further specification of WEEE, if applicable[2]**	**Share of lithium batteries (including lithium cells) in WEEE[3]**	**Function:(main)power source or support/backup**	**Mass (g)/ Nominal energy (Wh)/Lithium content (g)**	**Remarks**
Temperature exchange equipment					
Screens, monitors, and equipment containing screens having a surface greater than 100 cm²					
Lamps					
Large equipment Household appliances; IT and telecommunication equipment; consumer equipment; luminaires; equipment reproducing sound or images, musical					

Information on contained lithium batteries/cells in WEEE **Type/category of WEEE**[1]	**Further specification of WEEE, if applicable**[2]	**Share of lithium batteries (including lithium cells) in WEEE**[3]	**Function:(main)power source or support/backup**	**Mass (g)/ Nominal energy (Wh)/Lithium content (g)**	**Remarks**
equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments; automatic dispensers; equipment for the generation of electric currents. (Other than No. 1 to 3)					
Small equipment Household appliances; consumer equipment; luminaires; equipment reproducing sound or images, musical equipment; electrical and electronic tools; toys, leisure and sports equipment; medical devices; monitoring and control instruments; automatic dispensers; equipment for the generation of electric currents. (Other than No 1 to 3 and 6).					
Small IT and telecommunication equipment (no external dimension more than 50 cm)					

[1] The categories correspond to the categories as defined in Annex III of Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). When the information on batteries/cells refers only to parts of the described category, specify further.

[2] Indicate if the relevant group does not correspond to the WEEE category as described in column 1 (e.g. due to national collection regimes) and describe further, e.. function of the appliances

[3] Indicate reference parameters, e.g. kg of lithium batteries per t of WEEE.