Civil Aviation Authority

SAFETY NOTICE

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Safety Requirements Applicable to the Carriage of Electric Mobility Aids

This Safety Notice contains recommendations regarding operational safety.

Recipients must ensure that this Notice is copied to all members of their staff who need to take appropriate action or who may have an interest in the information (including any 'in-house' or contracted maintenance organisations and relevant outside contractors).

Applicability:	
Aerodromes:	All Aerodrome Operators, All PRM Service Providers and All Ground Handling Personnel
Air Traffic:	Not Primarily Affected
Airspace:	Not Primarily Affected
Airworthiness:	Not Primarily Affected
Flight Operations:	All UK AOC Holders, All Non-UK Operators Operating to the UK and All Ground Handling Organisations
Licensed/Unlicensed Personnel:	Not Primarily Affected

1 Introduction

1.1 On 7 September 2008 at Manchester Airport, ground staff unloading baggage from the forward hold of a Boeing 757 noticed blue sparks coming from an electric mobility aid. The device was removed from the aircraft and placed on a baggage belt vehicle, where it immediately burst into flames and was destroyed. From subsequent investigations, it appeared that the device's electrical circuit had not been protected from inadvertent operation prior to loading. It was probable that, during flight, baggage moved the control joystick causing the motor to be engaged thus causing friction or an electrical load causing ignition. Since the 2008 incident, the CAA has received over 70 further reports concerning electric mobility aids where the requirements of the International Civil Aviation Organization (ICAO) Technical Instructions had not been complied with.

1.2 The purpose of this Safety Notice is to remind aircraft operators and airport operators of their responsibilities for the ground handling and safe carriage of electric mobility aids established within:

- Regulation (EC) No. 1107/2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air ("the PRM Regulation");
- ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Doc 9284 AN/905) ("the ICAO Technical Instructions"); and

- Regulation (EC) No. 3922/91 Annex III ("EU-OPS").

2 Background

2.1 Safety requirements for the carriage of electric mobility aids by passengers are detailed in the ICAO Technical Instructions and are reproduced within the International Air Transport Association (IATA) Dangerous Goods Regulations.

2.2 The PRM Regulation places obligations on travel agents, tour operators, aircraft operators and airport operators designed to enable a disabled person or a person of reduced mobility ("a PRM") to travel by air with an electric mobility aid, including the ground handling and carriage of electric mobility aids subject to compliance with dangerous goods requirements.

2.3 Both the PRM Regulation and the ICAO Technical Instructions provide for tasks to be delegated to a contractor. However, the airport operator or aircraft operator (as applicable) retains responsibility for meeting the required standards.

2.4 The CAA is concerned that:

- the lines of communication between PRM, travel agents, tour operators, aircraft operators and airport operators are not fully effective in ensuring that adequate instructions are obtained and communicated to the personnel tasked with fulfilling the responsibility of an airport operator to make electric mobility aids safe for carriage;
- some aircraft operators use a 'Domestic', 'European' or 'Intercontinental' EU-OPS notional baggage mass for an electric mobility aid. The mass of most devices exceeds any mass used for standard checked baggage, indeed some devices are known to weigh hundreds of kilos; and
- some aircraft operators are not complying with Floor Contact Load limitations when carrying electric mobility aids.

2.5 Appendix A to this document:

- refers to the relevant requirements of the applicable regulations;
- identifies the respective obligations of the travel agent, tour operator, aircraft operator and airport operator in enabling a PRM to travel by air with an electric mobility aid and how they should be addressed by their respective procedures; and
- proposes a process aimed at ensuring that the loading of an electric mobility aid on board an aircraft satisfies the requirements of the applicable regulations.

3 Action to be Taken

3.1 Action for airport operators:

- ensure arrangements are in place for the preparation and loading of electric mobility aids for carriage by air (they need not actually carry out these tasks themselves – see paragraph 1.7 of Appendix A);
- agree with aircraft operators the means of receiving instructions for the preparation of electric mobility aids for safe carriage and for providing aircraft operators with confirmation that the actions specified have been achieved;
- ensure that initial and recurrent basic dangerous goods training is provided to those personnel tasked with the preparation and loading of electric mobility aids for carriage by air;
- ensure that Safety Management Systems adequately address the preparation and loading of electric mobility aids for carriage by air; and

- ensure that the quality of services provided by third parties (including the preparation and loading of electric mobility aids) is appropriately monitored.

3.2 Actions for aircraft operators:

- publish legally applicable restrictions on the carriage of mobility equipment including electric mobility aids;
- ensure that adequate measures are in place for the receipt of information from passengers about their assistance requirements (including the carriage of electric mobility aids) whether such requests are received directly or via tour operators and travel agents;
- ensure that adequate measures are in place for passing suitable information concerning requests for assistance (including instructions for the preparation of electric mobility aids) to airport operators;
- verify that procedures are in place to ensure electric mobility aids are only carried in accordance with the ICAO Technical Instructions and any aircraft loading limitations that apply;
- ensure that appropriate masses are used for mobility aids when raising aircraft mass and balance documentation and comply with load-spreading requirements;
- ensure that initial and recurrent basic dangerous goods training includes adequate instruction on the requirements pertaining to the carriage of electric mobility aids; and
- ensure that quality assurance and quality control monitoring includes activities associated with the carriage of electric mobility aids performed by airline passenger reservations and special assistance; check-in staff; load planning/control and aircraft loading staff.

3.3 Fulfilment of the requirements of the applicable regulations concerning the preparation, loading and carriage of electric mobility aids will be subject to CAA regulatory oversight.

4 A Team Approach

4.1 The law sets out specific obligations to be met by various parties. In practice, achieving the objectives of the PRM Regulation whilst complying with the ICAO Technical Instructions will require the effective cooperation of all concerned. The purpose of this Notice is to set out a framework, which has been developed following wide consultation, to facilitate that cooperation.

4.2 In the event that airport operators or aircraft operators identify anomalies in the existing arrangements for the preparation and loading of electric mobility aids, both parties are expected to work together to ensure the uninterrupted provision of assistance to PRMs whilst the issues are resolved (subject to compliance with flight safety requirements).

5 Queries

5.1 Any queries or requests for further guidance as a result of this communication should in the first instance be addressed to the Flight Operations Department by e-mail to **dgo@caa.co.uk** or by telephone to +44 (0)1293 573800.

6 Cancellation

6.1 This Safety Notice shall remain in force until further notice.

Appendix A

1 Background

1.1 References within this document to 'aircraft operator' and 'airport operator' are to be interpreted as 'air carrier' and 'managing body of the airport' respectively, as defined within the PRM Regulation.

1.2 Requirements for the carriage of electric mobility aids by passengers are detailed in the ICAO Technical Instructions and are reproduced within the IATA Dangerous Goods Regulations. Electric mobility aids (such as powered wheelchairs and scooters) must be protected from inadvertent operation, short circuit or damage caused by the movement of baggage or cargo.

1.3 Amendments to these requirements have been agreed by the ICAO Dangerous Goods Panel and Air Navigation Commission and are expected to be published on 30 March 2012 as an addendum to the 2011-12 Edition of the ICAO Technical Instructions. The revised text clarifies that the circuits of electric mobility aids must be inhibited to prevent inadvertent operation. Consequentially, switching off a device with a push-button on/off switch alone is not sufficient and additional measures are required. As the agreed changes enhance safety and clarify existing requirements, it is recommended that these be adopted in advance of their being mandatory for international air transport.

1.4 The forthcoming addendum to the ICAO Technical Instructions will also require the removal of batteries from an electric mobility aid that is specifically designed to allow this, for ease of transport, for example if the device is collapsible. Non-spillable batteries removed from such a device must be carried in strong, rigid packagings which must be stowed in the hold. Removed lithium-ion batteries must be carried in the passenger cabin and be protected from short circuit and damage. Such batteries must not exceed 300 Wh. A maximum of one (additional) spare battery not exceeding 300 Wh or two spares each not exceeding 160 Wh may be carried. These must also be carried in the cabin.

1.5 The PRM Regulation requires aircraft operators, their agents (travel/ticketing) and tour operators to establish all measures necessary for the receipt of information from passengers about their assistance requirements and to pass this information onto airport operators (a process known as pre-notification). Aircraft operators are required to carry up to two pieces of mobility equipment per PRM, subject to advance warning of 48 hours and to possible limitations of space on board the aircraft, and subject to the application of relevant legislation concerning dangerous goods.

1.6 Articles 7, 8 and 9 of the PRM Regulation establish that it is the airport operator which has the responsibility for providing assistance to ensure that any electric mobility aid belonging to a PRM is safe for carriage. The airport operator is responsible for the ground handling of all necessary mobility equipment (including electric mobility aids) subject to notification at least 48 hours prior to a flight's departure, possible limitations of space on board the aircraft and compliance with dangerous goods requirements. However, if no notification is made in advance of travel then the airport operator must make all reasonable efforts to provide assistance such that the PRM is able to take the flight for which they hold a reservation.

1.7 The airport operator may provide assistance itself or it may contract with one or more other parties (e.g. a ground handler or an aircraft operator) for the supply of the assistance. However, the **responsibility** for ground handling of mobility equipment still rests with the airport operator as this responsibility cannot be delegated under the PRM Regulation. References hereafter to 'airport operator' or 'aircraft operator' are intended to include contractors (where applicable).

1.8 When deciding whom to task with preparing electric mobility aids for safe carriage, airport operators should consider whether the personnel under consideration are in a position to seek guidance from a PRM if needed. In practice, both the airport operator and the aircraft operator

have important roles in ensuring the safe carriage of electric mobility aids so both must work in concert to ensure this objective is achieved.

1.9 There are, of course, some limits as to what an airport operator can be expected to do in particular circumstances. There will no doubt be extreme cases, where an airport operator may simply have to say that there is nothing which can practically be done to render an electric mobility aid safe, e.g. if it is of very unusual or unsafe design. It is clear that an airport operator cannot be expected to carry out corrective engineering on electric mobility aids presented for carriage. However, in practice such situations ought to be avoided in the vast majority of cases by the aircraft operator:

- ensuring the provision of proper information **to** the passenger (at the time of booking) about applicable safety standards and other constraints on what may be carried;
- proactively obtaining **from** the passenger relevant information about the electric mobility aid (including instructions for preventing accidental activation); and
- passing the information to the airport operator.

1.10 The manual handling of heavy electric mobility aids during the loading process can pose a risk of musculoskeletal disorder to the staff involved. Manual handling concerns are not a legally permissible reason for failing to comply with the PRM Regulation, so loading of a mobility aid cannot be refused because of such concerns. Aircraft operators cannot implement policies for the routine removal of batteries from mobility aids for the purposes of manual handling. Such a policy would be contrary to the safety requirements of the ICAO Technical Instructions and would not provide disabled persons and PRMs opportunities for air travel comparable to those of other citizens.

1.11 To address health and safety requirements, it is essential that employers fulfil their responsibilities under the Management of Health & Safety at Work Regulations and Manual Handling Operations Regulations, including the conduct of risk assessments and the provision and maintenance of suitable equipment for loading heavy mobility aids onto aircraft that minimises risks to staff. Further information is provided on the HSE website at: **www.hse.gov.uk/airtransport/topics/disabled.htm**.

1.12 A review conducted by the CAA identified the following:

- There are many different types of electric mobility aids and the means of inhibiting circuits (to prevent accidental operation) and protecting battery terminals from short circuit is not always apparent. Although the responsibility for making devices safe for carriage rests with the airport operator, aircraft loading personnel employed by the aircraft operator (or its contractor) are often presented with devices that have not been made safe for transport and are unable to obtain from the PRM the information required to make devices safe.
- Many aircraft loading staff and flight crew mistakenly believe that power cables must be disconnected from battery terminals prior to carriage. This is not usually necessary to make a device safe for carriage and if not done properly can increase the risk of a fire. Consequently, only if deactivation cannot be achieved by other means should such disconnection be considered. Mobility aids with spillable batteries are subject to further restrictions, which are detailed in Part 8 Chapter 1 of the ICAO Technical Instructions.

2 Division of Responsibilities under the PRM Regulation

2.1 The purpose of the PRM Regulation is to ensure that disabled persons and PRMs have opportunities for air travel comparable to those of other citizens. However, the safety of all passengers on board cannot be ignored in achieving this objective.

2.2 Before an electric mobility aid is loaded, an aircraft operator must satisfy itself that the mobility aid has been made safe in accordance with the ICAO Technical Instructions. Where an

aircraft operator is unable to be satisfied or where it in fact establishes that the electric mobility aid has not been made safe, it must not carry it. In such circumstances the aircraft operator is not under an obligation to render it safe.

2.3 The airport operator may not know how to make safe every type of electric mobility aid it is presented with. To enable airport operators to fulfil their responsibilities for preparing electric mobility aids for safe carriage, it is essential that aircraft operators seek information regarding the electric mobility aids used by their passengers and pass this on to airport operators. Having received such instructions, where by making reasonable efforts the airport operator is able to make an electric mobility aid safe for transport, and in any event where a PRM provides adequate information on how to achieve this, the airport operator must make the electric mobility aid safe for transport and arrange for confirmation to be communicated to the aircraft operator.

2.4 Where the PRM does not provide adequate information on how to make an electric mobility aid safe and it is not reasonably possible for the aircraft operator to obtain suitable instructions and pass these on to the airport operator, the airport operator is not under any further obligation to make the aid safe for transport.

3 The Aircraft Operator's Policy

3.1 In accordance with Article 4(3) of the PRM Regulation, an aircraft operator or its agent shall make publicly available the safety rules that it applies to the carriage of PRMs, as well as any restrictions on their carriage or on that of mobility equipment due to the size of aircraft. To comply with the aims of this requirement, the aircraft operator's restrictions should be clearly explained on its website, within its terms and conditions of carriage and within information provided with the ticket (or e-ticket).

3.2 In particular, the aircraft operator should make passengers aware of factors that would prevent the carriage of an electric mobility aid including:

a) not being satisfied that the requirements of the ICAO Technical Instructions are met in relation to the prevention of inadvertent operation and short circuit of the mobility aid;

b) insufficient space being available on the aircraft at the time the booking is made;

c) mobility aid dimensions exceeding cargo door dimensions; and

d) the tare weight of a mobility aid exceeding aircraft loading limitations, having considered all possible load-spreading options (see paragraph 5.2 below).

Note: Items (c) and (d) above are specific to aircraft type and configuration.

3.3 Aircraft operators that operate sectors wholly outside of the European Union (EU) should explain any additional requirements that apply to the carriage of electric mobility aids on flights that are not subject to the provisions of the PRM Regulation.

3.4 With the aim of making the journey as simple as possible for the passenger, the aircraft operator should consider all available means of encouraging PRMs to pre-notify their intention to travel with an electric mobility aid, for example by recording customers' requirements within loyalty programmes, online advertising, liaison with tour operators, articles within in-flight magazines, etc. It should be emphasised that pre-notification is in the passenger's best interest as it will assist with the provision of special assistance, vastly reduce the possibility of their electric mobility aid being refused carriage, and help prevent it from being damaged.

3.5 The Department for Transport (DfT) Code of Practice entitled 'Access to Air Travel for Disabled Persons and Persons with Reduced Mobility' published in July 2008 notes that it is good practice for tour operators and aircraft operators to provide confirmation to consumers that their request for assistance has been received and to keep records to demonstrate that requests have been transmitted.

4 Loading

4.1 Once the mobility aid has been made safe, the airport operator must ensure that it will be loaded onto the aircraft by the appointed ground handler and ensure that any required equipment is provided.

5 Load Planning and Securing Onboard the Aircraft by the Aircraft Operator

5.1 Mass and balance requirements are established within EU-OPS 1.605 / JAR-OPS 3.605. Loads are transmitted through the cargo hold floor panels to the aircraft structure. The over-stressing of the structure, resulting from poor load planning, can pose a threat to flight safety and cause permanent and/or vastly expensive damage to the aircraft. Therefore, there are a number of aircraft loading limitations that must be complied with:

- **Compartment Load.** Defined as the maximum amount of load that may be carried in an individual compartment, together with other traffic load, subject to the following rules:
  - **Floor Contact Load.** Defined as the maximum amount of load that may be in direct contact with the hold floor.
  - **Running/Linear Load.** Defined as the maximum amount of load acceptable on any given length of the fuselage.
  - **Cumulative Load.** Defined as the maximum amount of load placed forward or aft of the CG datum, without exceeding structural design limits.

5.2 Cargo of any type which is resting on wheels or castors can exceed limitations by imposing highly concentrated loads through a small contact area on the floor. If it is determined that the weight of an electric mobility aid exceeds any of the above limitations, then it must either be loaded on a structural pallet or be placed on load-spreading material that is of sufficient size to distribute the weight over an area that is within the floor contact load and the running load limitations of the aircraft. The required thickness of the load-spreading material will depend upon its strength and rigidity (which affects the extent to which load is spread over its surface area).

5.3 If the electric mobility aid has loose-fitting parts such as armrests, footrests, cushions etc., they should be placed in a plastic stowage sack or similar, prior to loading in the hold, to prevent any loose parts getting lost or broken. Many passengers prefer to carry this type of equipment on-board the aircraft to prevent loss or damage.

5.4 The ICAO Technical Instructions require that all dangerous goods, including electric mobility aids, be secured to prevent movement. Industry guidance recommends that items weighing 150 kg or more are to be individually restrained, except when the compartment or Unit Load Device (ULD) is volumetrically full (between 75% and 80% volume). However, using other baggage or cargo to secure electric mobility aids is not consistent with the requirement of the ICAO Technical Instructions to prevent damage to such items. In the load planning stage, operational practicality must be applied. If baggage or cargo has also been planned for the hold intended for the electric mobility aid, and it is expected to be near capacity for that zone, it is recommended to plan to load the electric mobility aid elsewhere on the aircraft if possible. This will reduce the risk of it being damaged and assist loading teams as they should have better access to a greater number of anchor points for restraint purposes. Similarly, for containerised operations as stowage within a ULD is recommended, an additional ULD may be needed above the standard number for the route concerned. If it is absolutely necessary to stow baggage or cargo in the same compartment or ULD, the electric mobility aid should be individually secured and must be protected from damage by the baggage or cargo, e.g. by also tying and lashing the baggage and cargo.

5.5 Electric mobility aids must be properly secured whether intended to be containerised or bulk-loaded. Restraint methods shall comply with the following general rules:

- By way of seat track or anchor points, restraint must be achieved in the following directions: forward, aft, upwards and sideways to the required load factors.
- Tie-down must be performed using approved equipment of a consistent type.
- The calculation of the tie-down arrangement's strength must be reduced to its weakest link.
- Tie-down arrangements must be symmetrical, i.e. performed using an equal number of tie-down attachment points (fittings or equivalent) on any two opposite sides of the item, and the same number of lashings, acting in the same direction(s) of restraint, onto any two symmetrically located attachment points.

The aircraft-specific frame spacing requirement must also be adhered to. This is the minimum distance that shall be maintained between any two tie-down attachment points (fittings) bearing lashings, giving restraint in the same direction.

5.6 All persons responsible for positioning and securing electric mobility aids must be familiar with the correct handling instructions detailed in the aircraft operator's specific Ground Operations/Handling Manual.

6 Availability of Information on Specific Electric Mobility Aids

6.1 The user guides of electric mobility aids normally include the tare weight and dimensions (required for load-control purposes), but typically do not include instructions for inhibiting the circuits of electric mobility aids in order to make them safe for carriage by air. The British Healthcare Trades Association (BHTA) has compiled (in conjunction with its members) a log containing all of the information needed by airport operators and aircraft operators to facilitate the safe carriage of many electric mobility aids. The log includes electric mobility aids distributed by BHTA members since 2006 (estimated to cover around 70% of the devices used within the EU) and is intended for use by PRMs, tour operators, aircraft operators and airport operators to ensure that appropriate information is shared by all involved in the carriage of electric mobility aids by air. The log is published at the following address: **http://www.bhta.net/home/air-transport-advice-lists.html**.

Unfortunately, the CAA is not aware of any worldwide or Pan-EU organisation that could be approached with a view to the collation of data on a wider scale.

6.2 The information listed on the BHTA log includes:

- Manufacturer.
- Model.
- Tare (un-laden) weight.
- Dimensions.
- Number of batteries.
- Type of battery (wet acid, non-spillable or lithium).
- Instructions for preventing accidental activation.

6.3 The means of inhibiting circuits to prevent the accidental activation of electric mobility aids vary. Most scooters have a key which can be switched to the off position, removed and given to the passenger for safe keeping. However, most power chairs are switched on and off with a push-button which could be reactivated in flight by the inadvertent movement of baggage or cargo. Accordingly, further steps are required to inhibit the circuits of such devices, for example disconnecting electric cable plugs or connectors, or inserting an inhibiting plug (such as the Airsafe™) into the charging socket of the device. For each power chair listed, the BHTA

log specifies whether the use of an Airsafe™ inhibiting plug is appropriate (as advised by the power chair manufacturer).

6.4 The battery terminals of current models of electric mobility aids tend to be protected from short circuit through the battery being fully encased. On other models it may be necessary to insulate battery terminals, e.g. with electrical insulating tape.

6.5 The BHTA log records whether a mobility aid has lifting points; however, it should be noted that many mobility aids were not designed with lifting and securing in mind as they were not intended to be carried within vehicles (including aircraft).

7 Outline Procedure for Ensuring the Safe Preparation of Electric Mobility Aids

7.1 When an aircraft operator receives notification of a PRM's intention to travel with an electric mobility aid, details of the make and model should be sought. The BHTA log should then be checked to see if it provides the information needed for the device concerned to be carried safely. If not, appropriate details will need to be sought from the passenger.

7.2 It is understood that a PRM who has not pre-notified will typically announce their intention to travel with an electric mobility aid at the aircraft operator's check-in desk. If, however, a PRM should first announce this to the airport operator at its designated PRM point of departure (e.g. if they checked-in online and have no checked baggage), the airport operator should notify the aircraft operator (e.g. through its check-in staff). The aircraft operator should then make reasonable efforts to establish the information necessary for ensuring the safe carriage of the mobility aid. If the device is not listed on the BHTA log, suitable written information should be sought from the passenger or an accompanying carer if applicable.

7.3 Once details of the electric mobility aid have been received, the aircraft operator must verify that it complies with its published policies (i.e. it meets any aircraft-specific restrictions concerning dimensions and tare weight and adequate instructions on the means of preventing accidental activation are available). If a journey involves different aircraft types or configurations (e.g. regional and long-haul sectors) all applicable limitations must be complied with. Outbound and return travel must be considered. If an aircraft operator is not satisfied that an electric mobility aid can be carried safely its carriage must be denied. Aircraft operators that are party to interline or code-share agreements should to ensure that the limitations of all aircraft operators involved are met.

7.4 Airport operators may be provided advance notice of the carriage of an electric mobility aid through including the appropriate IATA wheelchair code within the industry standard Passenger Assistance List (PAL) and Change Assistance List (CAL) messages. The PAL is a list of PRMs scheduled to travel on a particular flight and boarding point, produced by an airline's reservation system. The CAL is an updated list with any changes that have occurred in the reservations system since dispatch of a flight's PAL, or a previous CAL. The IATA Airport Handling Manual (AHM) details three codes for identifying electric mobility aids based upon the type of batteries installed. These are:

- WCBD - non-spillable batteries;
- WCBW - wet cell batteries; and
- WCLB – lithium ion batteries.

7.5 In order to ensure that the aircraft's mass and balance documentation reflects its loaded state, the aircraft operator must ensure that appropriate masses for each mobility aid are passed to the Load Planning Office (or Centralised Load Control if applicable). For a relatively small number of electric mobility aids, the BHTA log details a mass range, rather than an exact mass. This is because there are optional accessories available to meet the specific needs of the user.

7.6 If the passenger does not specify an exact mass for their particular electric mobility aid, the maximum potential mass stated on the BHTA log may be used when calculating load spreading requirements. For mass and balance calculations it may be appropriate to use the median (mid-range) figure as this is analogous with the use of notional baggage masses. Aircraft operators should determine whether this approach is appropriate to their operation based upon the types of aircraft operated. Operators of trim sensitive aircraft may need to assess the actual loading condition of aircraft on a flight by flight basis, taking into account the planned distribution of other baggage, cargo and passengers.

7.7 It is understood that the necessary information may be made available to Load Planning personnel using the Passenger Name Record (PNR). The PNR is a record of each passenger's travel requirements which should contain all the information necessary to enable reservations to be processed and controlled by the booking and participating airlines. The basic record may contain one or more passengers.

7.8 Aircraft operators should agree with airport operators the means of communicating details of the steps required for the safe preparation of electric mobility aids prior to carriage and to reactivate devices prior to repatriation with the passenger. This information may be communicated by the aircraft operator recording details of the electric mobility aid and instructions for inhibiting circuits (as specified on the BHTA Log or as supplied by the passenger) on an 'Electric Mobility Aid Tag' and attaching this to the device. The departure airport operator can then follow the instructions provided to make the device safe for carriage. At the airport of transit or arrival, the responsible ground staff can reactivate the device by reversing the steps taken prior to departure. An example tag is provided at Appendix B. It is possible to download a **pdf version of the example tag**.

7.9 Depending upon their needs, a PRM may require their electric mobility aid to be repatriated at the aircraft side or air bridge (as applicable) or they may find it acceptable to have the device returned at the baggage hall. The specimen mobility aid tag provided at Appendix B provides for this to be recorded as an instruction to personnel unloading the aircraft. Aircraft operators may choose to include additional information on the reverse of the specimen mobility aid tag such as translations of its text and a record of pre-existing damage to the mobility aid.

7.10 Where the airport operator, by making reasonable efforts, is able to make the electric mobility aid safe for transport (in accordance with written instructions received from the aircraft operator), they should arrange for written confirmation to be communicated to the aircraft operator. This confirmation could be made by signing an Electric Mobility Aid Tag previously attached to the device by the aircraft operator (see paragraph 7.8 above). Where used, the tag may be in duplicate (e.g. carbon copy), allowing one copy to remain on the device to provide information regarding how to reactivate the device at the airport of arrival and another copy to be provided to the aircraft operator.

7.11 Aircraft operators and airport operators may agree alternative means of communicating detail of the steps required for the safe preparation of electric mobility aids, for confirming that these have been completed and for reactivation prior to the repatriation of mobility aids with the PRM.

7.12 The aircraft operator should only permit the loading of an electric mobility aid when confirmation that it has been made safe has been received from the airport operator. The specimen 'Electric Mobility Aid Tag' includes a declaration by the person responsible for making an electric mobility aid safe for carriage that should be signed to confirm the actions detailed have been completed. The aircraft operator should check that this declaration has been signed. In addition, prior to accepting an electric mobility aid for loading, the aircraft operator should make a check that inadvertent operation of the device has been prevented. This can be achieved by seeing if the mobility aid will power up, and if so whether use of the joystick results in the mobility aid moving. The aircraft operator should also be alert to obvious visual signs that the mobility aid has not been prepared properly (e.g. battery terminals that have not been protected from short circuit). It is recommended that these checks be recorded;

the specimen Electric Mobility Aid Tag makes provision for this. If it is evident that an electric mobility aid has not been made safe, it must not be loaded and it will be necessary to liaise with the airport operator in order to resolve the areas of concern.

7.13 The aircraft operator should retain a written record of the confirmation provided by the airport operator and the check made by the aircraft operator. Where the specimen Electric Mobility Aid Tag is used, the aircraft operator should remove one of the duplicate copies of the completed tag and retain this with other flight documentation retained on the ground.

7.14 A **flowchart of the procedure for the carriage of electric mobility aids** may be viewed online.

8 Training and Testing

8.1 The ICAO Technical Instructions require that personnel receive training commensurate with their responsibilities for the carriage of dangerous goods, including those permitted for carriage by passengers, such as electric mobility aids. Recurrent training must be provided within 24 months of previous training to ensure knowledge is current. However, if recurrent training is completed within the final three months of validity of previous training, the period of validity extends from the date on which the recurrent training was completed until 24 months from the expiry date of that previous training. A test to verify understanding must be completed following the training and records must be maintained.

8.2 The CAA has produced a training video on procedures for the safe carriage of electric mobility aids entitled ‘One Team, One Goal’. The production is aimed directly at staff working within the following areas:

- tour operator and travel agent reservations;
- airline reservations;
- load planning;
- passenger handling (e.g. check-in, ticket desk and gate);
- bodies tasked with fulfilling the airport operator’s responsibility for making electric mobility aids safe for carriage by air; and
- aircraft loading.

Other categories of aviation staff may benefit from viewing the video in whole or in part. For example, flight and cabin crew may find of interest the stowage requirements that apply to batteries removed from collapsible devices. The production is copyright free if used for the non-commercial purposes of flight safety or furthering the rights of PRMs under the PRM Regulation.

8.3 The **‘One Team, One Goal’ video** may be viewed online, and is also available free of charge in DVD format.

8.4 A short written test applicable to staff tasked with making electric mobility aids safe for carriage by air is also available. If the personnel tasked with this responsibility have other responsibilities for the carriage of goods by air, additional dangerous goods training and testing will be required.

8.5 Requests for copies of the DVD and the written test should be e-mailed to the Flight Operations Department: **dgo@caa.co.uk**.

Appendix B

ELECTRIC MOBILITY AID

RETURN AT GATE* / BAG HALL*

(*delete as appropriate)

PAX Name: Reservation no.:

Flight no.: Seat no.: Travel date:

Make/Model: Tare weight (Kg):

Instructions for protecting from short-circuit:

☐ The battery is fully encased with no exposed terminals

☐ Other: _____

Instructions for inhibiting electrical circuits:

☐ Switch off key and give to PAX ☐ Insert inhibiting plug

☐ Separate battery cable connector by: _____

_____

☐ Non-spillable batteries specifically designed to be removed for ease of transport, contained in strong, rigid packagings (hold stowage only)

☐ Lithium batteries specifically designed to be removed for ease of transport, protected from short circuit and taken by pax for cabin stowage

☐ Other: _____

☐ Wet acid batteries only that cannot be loaded and stowed in an upright position: remove, insulate terminals and arrange packing in accordance with the ICAO Technical Instructions.

I confirm that I have protected the device from short circuit and have inhibited the electrical circuits as specified above.

Name (print): _____ Sign: _____

PERSON RESPONSIBLE FOR MAKING SAFE FOR CARRIAGE

I confirm that I have checked the mobility aid and it does not operate.

Name (print): _____ Sign: _____

LOADING SUPERVISOR