



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**THIRTIETH MEETING**

**Montréal, Canada, 6 to 10 October 2025**

**Agenda Item 4: Managing safety risks posed by the carriage of energy storage devices by air (*Ref: Job Card DGP.003.05*)**

**LOW PRODUCTION RUN CELLS AND BATTERIES: HARMONIZATION OF TEXT  
BETWEEN 2;0.6.2 AND SPECIAL PROVISION A88**

(Presented by L. Cascardo)

**SUMMARY**

This working paper follows up on discussions held at the 2025 DGP Working Group Meeting concerning a misalignment between Special Provision A88, which applies to pre-production prototypes and “low production run” cells and batteries, and 2;0.6.2, which allows articles classified as articles containing dangerous goods to in addition contain cells or batteries. The discrepancy arises because 2;0.6.2 refers to Special Provision A88 but does not specify that the production limit of 100 cells or batteries applies on an annual basis, as stated in Special Provision A88. The same problem happens in a few packing instructions. To ensure consistency and clarity, a revision to the Technical Instructions is proposed.

**Action by the DGP:** The DGP is invited to consider the proposed amendments to the Technical Instructions shown in the appendix to this working paper.

**1. INTRODUCTION**

1.1 This working paper follows up on work initiated at the 2025 DGP Working Group Meeting (DGP-WG/25, Delhi, India, 21 to 25 April 2025) (see paragraph 4.4.2 of the DGP-WG/25 report) to correct a misalignment between Special Provision A88 and Part 2;0.6.2 of the Technical Instructions. It takes into consideration comments received by the members and advisers of the working group.

1.2 The recently amended provision 2;0.6.2 in the Technical Instructions states:

## Part 2

### CLASSIFICATION OF DANGEROUS GOODS

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#### INTRODUCTORY CHAPTER

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#### 6. CLASSIFICATION OF ARTICLES AS ARTICLES CONTAINING DANGEROUS GOODS N.O.S.

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6.2 Such articles may in addition contain cells or batteries. Lithium cells and batteries that are integral to the article must be of a type proven to meet the testing requirements of the UN *Manual of Tests and Criteria*, Part III, subsection 38.3. For articles containing pre-production prototype lithium cells or batteries transported for testing, or for articles containing lithium cells or batteries manufactured in **production runs of not more than 100 cells or batteries**, the requirements of Special Provision A88 apply.

1.3 Meanwhile, Special Provision A88 contains the following relevant text:

A88 Pre-production prototypes of lithium cells or batteries, or sodium ion cells or batteries, when these prototypes are transported for testing or low production runs (that is, **annual production runs consisting of not more than 100 lithium cells or batteries, or sodium ion cells or batteries**) of lithium cells or batteries, or sodium ion cells or batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator and the requirements in Packing Instruction 910 of the Supplement are met.

1.4 A comparison between the two provisions reveals an inconsistency: The revised 2;0.6.2 omits the clarification that the 100-unit production cap is calculated on an annual basis, while Special Provision A88 explicitly states this. The omission of the annual qualifier in 2;0.6.2 may lead to misinterpretation, where different people in the supply chain could assume that the 100-unit cap applies to a different timeframe (e.g. per shipment or per project). This could result in unintended deviations from regulatory intent.

1.5 A new proposal is being presented based on the fact that the UN Model Regulations do not use the term “**low** production runs”. Instead, they only refer to “production runs”. Additionally, it was identified at DGP-WG/25 that the changes presented would cause consequential amendments to other requirements, such as the ones in the packing instructions.

1.6 A revised proposal to address the working group’s concerns was agreed in principle at DGP-WG/25, but both the presenter and the working group considered that, since several changes were required, it would be clearer to submit a new working paper to DGP/30 addressing all the comments and amendments proposed.

1.7 In addition, the working group wanted time to ensure that using the term “low” in the Technical Instructions when it wasn’t used in the UN Model Regulations was not intentional and to have justification for the introduction of the word “annual.”

1.8           Regarding the term “low,” we reviewed the history of the Technical Instructions back to the 2008 DGP Working Group Meeting (DGP-WG08, The Hague, Netherlands, 3 to 7 November 2008). The working paper presented to DGP-WG/08-WP/25 on the subject stated:

*1.3 Special Provision A88 authorizes shipments of prototype batteries provided the shipper secures an approval from the appropriate authority in the State of Origin. However, the Technical Instructions do not provide a means for shipping low production batteries, which is inconsistent with the provisions in the UN Model Regulations and IMDG Code. Special Provision 310 in the UN Model Regulations and IMDG Code authorize shipments of prototype and low production batteries provided the shipper uses very robust Packing Group I packaging. (SP 310 refers to low production as “production runs consisting of not more than 100 lithium cells and batteries.”) PRBA is proposing that Special Provision A88 in the Technical Instructions be amended to harmonize with the UN Model Regulations and IMDG Code to authorize shipments of low production batteries provided an approval is secured from the appropriate authority in the State of Origin.*

1.9           That paper introduced the term “low,” with the assumption that there was a difference from the UN text, but including an explanation to establish a parallel with Special Provision 310 of the UN Model Regulations. This is the reason why the term “low” was introduced.

1.10          Regarding the term “annual,” we traced the discussion back to the 2022 DGP Working Group Meeting (DGP-WG/22, Montréal, 21 to 25 November 2022) (see paragraph 4.1.2.3 of the DGP-WG/22 report), where the proposal to remove the term was made in order to align with the UN Model Regulations. However, members were not in favour of its removal, as there were concerns that this could lead to unintended consequences.

## 2.       **ACTION BY THE DGP**

2.1           The DGP is invited to consider the proposed amendments to the Technical Instructions shown in the appendix to this working paper.

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## APPENDIX

### PROPOSED AMMENDMENTS TO THE TECHNICAL INSTRUCTIONS

#### Part 2

#### CLASSIFICATION OF DANGEROUS GOODS

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##### 6. CLASSIFICATION OF ARTICLES AS ARTICLES CONTAINING DANGEROUS GOODS N.O.S.

...

6.2 Such articles may in addition contain cells or batteries. Lithium cells and batteries that are integral to the article must be of a type proven to meet the testing requirements of the UN Manual of Tests and Criteria, Part III, subsection 38.3. For articles containing pre-production prototype lithium cells or batteries transported for testing, or for articles containing lithium cells or batteries manufactured in annual production runs of not more than 100 cells or batteries, the requirements of Special Provision A88 apply.

#### Part 3

#### DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND LIMITED AND EXCEPTED QUANTITIES

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#### Chapter 3

#### SPECIAL PROVISIONS

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A88 Pre-production prototypes of lithium cells or batteries, or sodium ion cells or batteries, when these prototypes are transported for testing or low annual production runs ~~(that is, annual production runs consisting of not more than 100 lithium cells or batteries, or sodium ion cells or batteries) of lithium cells or batteries, or sodium ion cells or batteries~~ that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator and the requirements in Packing Instruction 910 of the Supplement are met.

A copy of the document of approval including the quantity limitations must accompany the consignment. Transport in accordance with this special provision must be noted on the dangerous goods transport document.

Irrespective of the limit specified in column 13 of Table 3-1, the cell or battery as prepared for transport may have a mass exceeding 35 kg.

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## Part 4

# PACKING INSTRUCTIONS

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### 4.2 PACKING INSTRUCTIONS

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### Packing Instruction 220

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#### Packing Instruction 220

Cargo aircraft only for UN 3529 only

(See Packing Instruction 378 for flammable liquid-powered engines or machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles, Packing Instruction 952 for battery-powered equipment and vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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#### ADDITIONAL PACKING REQUIREMENTS

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##### *Batteries*

All batteries must be installed and securely fastened in the battery holder of the machine or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the machine or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries are installed:
  - i) lithium batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and
  - ii) lithium batteries must meet the provisions of Part 2;9.3, except that pre-production prototypes of lithium ~~cells or batteries or cells~~, when these prototypes are transported for testing, or ~~low annual~~ production runs of not more than 100 lithium cells or batteries ~~lithium batteries or cells~~ that have not been tested to the requirements in Part III, subsection 38.3 of the UN Manual of Tests and Criteria may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.
- 3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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**Packing Instruction 378**

Passenger and cargo aircraft for UN 3528 only  
(See Packing Instruction 220 for flammable gas-powered engines or machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles, Packing Instruction 952 for battery-powered equipment and vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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**ADDITIONAL PACKING REQUIREMENTS**

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**Batteries**

All batteries must be installed and securely fastened in the battery holder of the machine or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the machine or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries are installed:
  - i) lithium batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and
  - ii) lithium batteries must meet the provisions of Part 2;9.3, except that pre-production prototypes of lithium ~~cells or batteries or cells~~, when these prototypes are transported for testing, or ~~low annual~~ production runs of ~~lithium batteries or cells~~ not more than 100 lithium cells or batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.
- 3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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**Packing Instruction 950**

Passenger and cargo aircraft for UN 3166 only  
(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 951 for flammable gas-powered vehicles, Packing Instruction 952 for battery-powered equipment and vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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**ADDITIONAL PACKING REQUIREMENTS**

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**Batteries**

All batteries must be installed and securely fastened in the battery holder of the vehicle and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the vehicle to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries are installed:
  - i) lithium batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and
  - ii) lithium batteries must meet the provisions of Part 2;9.3, except that pre-production prototypes of lithium ~~batteries or cells or batteries~~, when these prototypes are transported for testing, or ~~low annual~~

production runs of ~~lithium batteries or cells~~ not more than 100 lithium cells or batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.

- 3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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### Packing Instruction 951

Cargo aircraft only for UN 3166 only

(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 952 for battery-powered equipment and vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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#### ADDITIONAL PACKING REQUIREMENTS

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#### *Batteries*

All batteries must be installed and securely fastened in the battery holder of the vehicle and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the vehicle to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries are installed:
  - i) lithium batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and
  - ii) lithium batteries must meet the provisions of Part 2;9.3, except that pre-production prototypes of lithium ~~batteries or cells~~ or batteries, when these prototypes are transported for testing, or ~~low annual~~ production runs of ~~lithium batteries or cells~~ not more than 100 lithium cells or batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.
- 3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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**Packing Instruction 952**

Passenger and cargo aircraft for UN Nos. 3171, 3556, 3557 and 3558 only  
(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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**ADDITIONAL PACKING REQUIREMENTS**

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*Batteries*

All batteries must be installed and securely fastened in the battery holder of the vehicle or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the vehicle or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries or sodium ion batteries are installed:
  - i) batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport;
  - ii) lithium batteries must meet the provisions of Part 2;9.3 and sodium ion batteries must meet the provisions of Part 2;9.4, except that pre-production prototypes of lithium batteries or sodium ion batteries, when these prototypes are transported for testing, or low annual production runs of not more than 100 lithium batteries or sodium ion batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment;

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**Packing Instruction 972**

Passenger or cargo aircraft for UN 3530 only  
(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles or Packing Instruction 952 for battery-powered equipment and vehicles)

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**ADDITIONAL PACKING REQUIREMENTS**

...

*Batteries*

All batteries must be installed and securely fastened in the battery holder of the machine or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) If spillable batteries are installed, and it is possible for the machine or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 870.
- 2) If lithium batteries are installed:
  - i) lithium batteries identified as being damaged or defective in accordance with Special Provision A154 are forbidden for transport; and

ii) they must meet the provisions of Part 2;9.3, except that pre-production prototypes of lithium ~~batteries or cells~~ or batteries, when these prototypes are transported for testing, or ~~low annual~~ production runs of ~~lithium batteries or cells~~ not more than 100 lithium cells or batteries that have not been tested to the requirements in Part III, subsection 38.3 of the UN *Manual of Tests and Criteria* may be transported aboard cargo aircraft if approved by the appropriate authority of the State of Origin and the State of the Operator. A copy of the document of approval must accompany the consignment.

3) If metallic sodium or sodium alloy batteries are installed, they must conform to the requirements of Special Provision A94.

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