

DANGEROUS GOODS PANEL (DGP) MEETING OF THE WORKING GROUP OF THE WHOLE

Montréal, 15 to 19 October 2012

Agenda Item 5: Issues related to lithium batteries

AIRCRAFT CABIN SERVICE TROLLEY WITH LITHIUM BATTERY AND CARBON DIOXIDE CYLINDER

(Presented by A. Tušek)

SUMMARY

A new type of aircraft cabin service trolley is being developed and incorporates the use of a lithium battery and a carbon dioxide cylinder.

It is believed that approval for this equipment is being sought as an aircraft part rather than as dangerous goods of the operator.

The attached details are for the information of the DGP.

Action by the DGP-WG is in paragraph 2.

1. **INTRODUCTION**

- 1.1 An airline in Australia recently attended a trade show and was shown a new type of aircraft cabin service trolley. The trolley is marketed as equipment for use in flight to serve hot drinks and carbonated beverages.
- 1.2 The design of the trolley includes the use of a large lithium battery (approximately 168 Wh) and a carbon dioxide cylinder (5 kg), both of which can be changed in-flight.
- 1.3 The manufacturer was approached and has stated they do not currently have any aviation approval for the system but informed me that "Right now we are applying for STC, which will be followed by TSO until end of 2012."
- 1.4 An STC means this trolley becomes part of the aircraft certification (as part of the aircraft) and the dangerous goods would not be controlled by the Technical Instructions.

(5 pages) DGPWG.12.IP.002.6.en.docx 1.5 The TSO would mean the trolley has an approval as aircraft equipment such as a unit load device that incorporates dry ice for which the carriage of dry ice is controlled by the Technical Instructions.

2. **ACTION BY THE DGP**

2.1 The documents in the appendix to this information paper are provided for information of the DGP.

APPENDIX A

SKY TENDER DATA AND FACTS





High class for drinks







SkyMax GmbH

Grosshorst 3 30916 Isernhagen Germany

phone +49 5136 9723066

www.SkyMax.eu info@SkyMax.eu

Data and facts "SkyTender"

Name SkyTender

Sales SkyMax GmbH, Grosshorst 3, D-30916 Isernhagen

Development Air-Eltec Luftfahrtelektrik GmbH,

Junostrasse 1, D-35745 Herborn

Dimensions Standard trolley Atlas format

Weight 45 kg (without liquids), 85 kg (fully loaded)

Necessary accessories CO2-bottles, accumulator, water container, syrup bags

Operation Accumulator 12V, 15Ah / operating time 24h.

Packaging system of the syrups Bag-In-Box and drinks
Capacity of syrups and drinks 830 ml per bag (10 slots)

Capacity of hot water up to 30 litres
Capacity of cold water up to 30 litres

Offer Up to 30 different drink mixes per trolley filling. All types

of juices, soft drinks, mixed drinks with and without alcohol,

hot and cold, from any available sorts

Filling quantity

More than 220 drinks with 180ml drink size

Bar-Code system RFID technology

Certifications Preparation flight test phase is running, STC 2011, then TSO

Further benefits in key points

- Goods are ordered and tracked software-based. It is possible to read/determine requirements on the device. Identification and reading of the goods by RFID.
- No deposit system for bottles, less bottle waste owing to favourable Bag-in-Box surrounding packaging, instead of 1-litre or 1.5-litre-bottles only syrups are transported.
- Hot and cold drinks are produced by the SkyTender therefore coffeemakers, hot water boiler etc. are no longer required, there is no longer a need to boil coffee in the galley.
- Water is cooled and insulated in the container. Dry ice for cooling, which is very complex in the handling (skin contact protection of the employees etc.) and is expensive is no longer needed.

More information can be found at www.skymax.eu

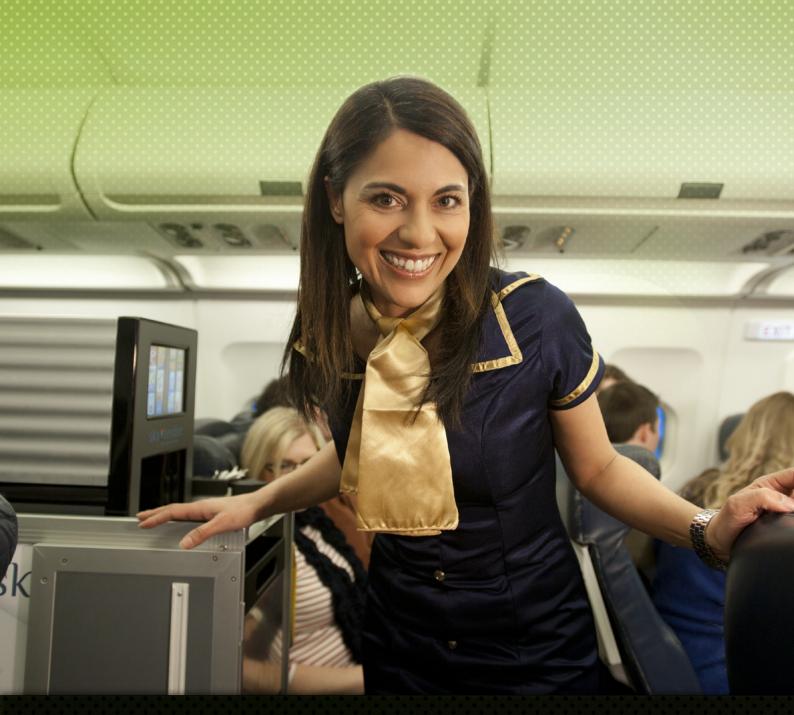


APPENDIX B

SKY TENDER'S BROCHURE



The First And Only Fully Automated Beverage System



SkyMax



Using SkyTender as a new and innovative way to get passengers served with all kinds of drinks, makes the job of all airline personnel a lot easier. Time and money is saved, since all drinks come at a push of a button. Thus the drinks trolley becomes a universal dispenser of hot and cold beverages.

The elegant trolley avoids a lot of waste on board since bottles and cans are no longer necessary. Hot water boilers for coffee and tea are no longer required. Which saves weight and space—and ultimately fuel and carbon dioxide, too.

More than 220 drinks, including beer and wine, are dispensed from the SkyTender fully automatically. It is the ideal universal trolley, developed for the aviation industry with both the passengers and cabin crew in mind.









