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Inland Transport Committee

Working Party on the Transport of Perishable Foodstuffs

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Item 5 (a) of the provisional agenda

Proposals of amendments to the ATP: Pending proposals

Comments on annex 1 appendix 2 paragraph 8 of ATP (Multi-temperature and multi-compartment equipment, entered into force on September 20, 2013)

Transmitted by Finland

Some details of the new section 8 seem confusing and it should be considered if some corrections are required.

Paragraph 8.3.1

In the end part of paragraph 8.3.1 General procedure is stated:

“For issuance of an ATP certificate:

*The nominal refrigerating capacity of the multi-temperature refrigeration unit shall be at least equal to the heat loss through the **internal dividing and** outer body walls of the equipment as a whole multiplied by the factor 1.75 as specified in paragraph 3.2.6 of this appendix.”*

Mentioning internal dividing walls in this context seems weird and not in line with the formula in paragraph 8.3.2.

Should the words *“internal dividing and”* be deleted?

Paragraph 8.3.2

The formula $P_{\text{nominal}} > 1.75 * K_{\text{body}} * S_{\text{body}} * \Delta T$

contains the term S_{body} , which is explained to mean “the internal surface of the body”.

In paragraph 3.2.6 of the appendix it is stated that the effective cooling capacity shall exceed the heat loss through the walls multiplied by the factor 1.75.

Combined with the formula of the K coefficient in paragraph 1.1

$$K = W / S * \Delta T \quad (\Leftrightarrow W = K * S * \Delta T)$$

where term S means the geometric mean of inside surface area and outside surface area of the body, the following formula for calculating the required refrigerating capacity is commonly used:

$$P \geq 1.75 * K * S * \Delta T$$

Actually the formula above is not expressed anywhere in the ATP Agreement. However, if this formula is compared to the new formula in 8.3.2, it shows that a single compartment body needs more refrigerating capacity than a multi compartment body of equal size.

Depending on the size and construction of the body, the inside surface area is from 2 % to more than 15 % smaller than the geometric surface area.

Should the term S_{body} in the formula in paragraph 8.3.2 be amended to mean “*the geometric mean surface area of the body*” ?

Paragraphs 8.3.3 and 8.3.4

It should also be clarified if the surface areas of the compartments $S_{\text{chilled-comp}}$ and $S_{\text{frozen-comp}}$ mentioned in the formulas in paragraphs 8.3.3 and 8.3.4 are geometrical mean surface areas or something else.
