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Working Party on the Transport of Perishable Foodstuffs

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Item 5 (b) of the provisional agenda

PROPOSALS OF AMENDMENTS TO THE ATP

New proposals

Test for the renewal of ATP certificates at 12 years and over*

Submitted by the Government of Spain

Introduction

1. The limit values of the K coefficient for special heavily insulated equipment and normally insulated equipment have not changed since the entry into force of the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP) even though the insulation manufacturing industry has changed the composition of the isolating materials. Until the 1990s the rigid polyurethane components used were produced with freon 11, a chlorofluorocarbon that poses a major threat to the ozone layer. Later, hydrochlorofluorocarbon-based polyurethanes (HCFC 141b) were used that, while not

* The present document is submitted in accordance with the Programme of Work for 2008-2012 of the Inland Transport Committee (ECE/TRANS/2008/11, item 2.11 (a)) which calls for the "Consideration of amendment proposals to ATP to ensure it is updated as necessary".

threatening the ozone layer, adversely affect the atmosphere by contributing to global warming. In recent years HCFC 141b-based insulation has been replaced by insulating material obtained from C5 pentane derivatives (mainly cyclopentane and n-pentane).

2. It should be noted that the thermal conductivity of cyclopentane is about 20% higher than that of polyurethane obtained with CFC-11 and the k-value of 0.28 W/m²K in a body built with freon 11 is equal to bodies built with the same thickness of cyclopentane-based polyurethane, which has a k-value of 0.33-0.34 W/m²K.
3. It should also be stressed that the thermal conductivity of both older and newer insulating materials changes with age, as confirmed by studies done by the majority of testing stations. As ageing entails an annual increase of about 5% of the k-value, in order to keep perishable foodstuffs at transport temperatures it is necessary to use thermal appliances that work with an ever-increasing safety margin to offset the increase in the conductivity of the insulating materials. The ageing of the insulating material also pushes up the consumption of the fuels used to operate the refrigeration units, in turn resulting in a significant increase in carbon emissions into the atmosphere.
4. Rising temperatures are a proven fact in many countries such as Spain, Portugal, Italy and Greece, and although the values for the refrigeration capacity of thermal units are set for an outside temperature of 30° C, it is well known that this is lower than the summer temperature in these countries.
5. The ATP agreement is based on checks of the insulating capacity of special equipment and on the efficiency of thermal appliances of special equipment for the carriage of perishable foodstuffs. Individually, neither of the two checks guarantees both the conservation of the foodstuffs and the reduction in carbon emissions causing global warming.

Proposed amendment

6. Spain proposes an amendment to annex 1, appendix 2, paragraph 29 (c), inserting the following text:

“(iii) In all cases, during the inspection of special heavily or normally insulated equipment built 12 or more years ago that has not been checked for insulating capacity as described in paragraphs 7 to 27 of this appendix, the equipment must be sent by the competent authority to a testing station authorized to check the K coefficient by the method described in paragraph 26 of this appendix. Only equipment that has passed this test may be kept in service in its initial class for a further period of 6 years and must bear the distinguishing marks described in appendix 4 of this annex.”

The current paragraph (iii) becomes paragraph (iv).

Economic and environmental impact of the proposal

7. The tests described in paragraph 26 of annex 1, appendix 2, cost less than the test mentioned in paragraphs 7 to 25 of this appendix because they take less time.

8. The test of special equipment built 12 or more years ago is particularly necessary because:

(a) It precludes an insulated body or tank that does not have the proper K coefficient of insulation from continuing to be used for carriage without meeting the requirements of the ATP agreement;

(b) Non-compliance with the ATP agreement, as in the previous paragraph, necessitates the use of more powerful refrigerated equipment. This can be avoided by replacing the body or tank by a new body or tank.

9. Energy-intensive equipment should be avoided given fuel costs and the effect on the environment.

Conclusion

10. This proposal seeks to improve safety in the carriage of foodstuffs by ensuring that the temperature is regulated according to the ATP agreement and fuel consumption is diminished. It should help to reduce the volume of carbon emissions in the atmosphere in order to stem global warming.
