Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Perishable Foodstuffs

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Item 5 (b) of the provisional agenda
Proposals of amendments to ATP:
New proposals

26 October 2023

English

Comments on document ECE/TRANS/WP.11/2023/11

Transmitted by the Government of Italy

I. Introduction

1. Paragraph 6.2.2 of annex 1 appendix 2 of the ATP Agreement specifies that, from next January 2024 non-independent refrigerated vehicles registered after 6 January 2018, in addition to the pull down test (as per paragraph 6.2) will have to prove that, after stabilization, they maintain the class temperature by operating the vehicle engine at idle speed for 90 minutes. There are three points to clarify:

- What is meant by "maintain class temperature"?
- How long must the not-independent reefer, operate to stabilize the internal temperature, allowing the panels that make up the isothermal body to transfer part of their residual heat?
- It is correct not to take into account the ambient temperature in establishing the time of 90 minutes without making a distinction between the most favorable case Δt 15 °C and the least favorable Δt 50 °C?

2. The text as it is, can be interpreted very strictly, the internal temperature detected by the hottest probe must be within a range of +/- 0.5 °C around the class temperature. This condition makes almost impossible the positive result of the requested test. (excluding vehicles with alternator instead of compressor direct-drive). It would be advisable to define a measurement tolerance of +/-3 °C on the recording of the hottest probe, with respect to the class temperature.

3. Another consideration is needed; according to the ambient temperature (which for the validity of the test can be between **15 °C** and **30 °C**) the maintenance of the class temperature may or may not be satisfied with the same vehicle. (Example: same vehicle - positive winter test - negative summer test). Since the vehicles affected by this procedure are vehicles equipped with fume exhaust systems with catalysts, keeping an engine running for 90 minutes at idle speed ~~can~~ **might** represent a danger for the catalyst itself which can reach very high temperatures and be damaged. Therefore, we propose to include in the text of paragraph 6.2.2 ~~a table similar to that of paragraph 6.2.1 (ambient temp/pull down time limit)~~ which relates the ambient temperature to the time required to satisfy the “maintain” test of the class temperature.

4. The table below is a subdivision ~~hypothesis~~ **proposal** that could be integrated in paragraph 6.2.2:

Outside Temperature																
30°C	*29° C*	*28° C*	*27° C*	*26° C*	*25° C*	*24° C*	*23° C*	*22° C*	*21° C*	*20° C*	*19° C*	*18° C*	*17° C*	*16° C*	*15° C*	*ATP setpoint*

60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	*0°C*
50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	*-10°C*
40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	*-20°C*
Minutes																

II. Proposal

Original version:

"6.2.2 Non-independent equipment

(i) Non-independent equipment, the refrigeration unit of which is powered by the engine of the vehicle

It shall be verified that, when the outside temperature is not lower than 15 °C, the inside temperature of the empty equipment can be maintained at the class temperature, after cool-down and stabilization, when the engine is running at the idle speed set by the manufacturer (where applicable), for a minimum period of one hour and thirty minutes.

If the results are satisfactory, the equipment may be kept in service as mechanically refrigerated equipment in its initial class for a further period of not more than three years.

(ii) Transitional provisions for non-independent equipment in service:

For equipment constructed prior to 6 January 2018, this provision need not be applied. In this case the equipment shall comply with the requirements of (i) or (ii) of this paragraph as applicable for the date of construction."

PROPOSAL I

This proposal takes into account the comment related to the replacement of "be brough" with "should be maintained" The symbol "+" before ambient temperature is removed

6.2.2 Non-independent equipment

(i) Non-independent equipment, the refrigeration unit of which is powered by the engine of the vehicle

It shall be verified that, when the outside temperature is not lower than 15° C **and the internal temperature has reached the class temperature**, the inside temperature of the empty equipment can be maintained at the class temperature, ~~after cool down and stabilization~~, when the engine is running at the idle speed set by the manufacturer (where applicable), for a minimum period of one hour and thirty minutes. **If the outside temperature is higher than 15 °C, the inside temperature of the empty equipment ~~can be brought to the~~ should be maintained at class temperature ~~within a~~ for a minimum period (in minutes), as prescribed in the table below:**

Outside Temperature																
30° C	*29° C*	*28° C*	*27° C*	*26° C*	*25° C*	*24° C*	*23° C*	*22° C*	*21° C*	*20° C*	*19° C*	*18° C*	*17° C*	*16° C*	*15° C*	*ATP setpoint*
60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	*0°C*
50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	*-10°C*
40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	*-20°C*
Minutes																

The internal temperature taken into consideration is the average temperature of the two sensors measured during the period selected for the test. The equipment is considered compliant if it meets the following conditions:

The average internal temperature is included in the ranges defined ~~above~~ below:

the amplitude of the temperature variations around the class temperature is +/- 3 °C.

If the results are satisfactory, the equipment may be kept in service as mechanically refrigerated equipment in its initial class for a further period of not more than three years.

(ii) Transitional provisions for non-independent equipment in service:

For equipment constructed prior to 6 January 2018, this provision need not be applied. In this case the equipment shall comply with the requirements of (i) or (ii) of this paragraph as applicable for the date of construction.

PROPOSAL II:

This proposal takes into account the suggestion to unify the test time and remove the table
The symbol"+" before ambient temperature is removed

6.2.2 Non-independent equipment

(i) Non-independent equipment, the refrigeration unit of which is powered by the engine of the vehicle

It shall be verified that, when the outside temperature is not lower than 15° C **and the internal temperature has reached the class temperature**, the inside temperature of the empty equipment can be maintained at the class temperature, ~~after cool-down and stabilization~~, when the engine is running at the idle speed set by the manufacturer (where applicable), for a minimum period of ~~one hour and thirty~~ **40** minutes.

The internal temperature taken into consideration is the average temperature of the two sensors measured during the period selected for the test. The equipment is considered compliant if it meets the following conditions:

The average internal temperature is included in the ranges defined below:

the amplitude of the temperature variations around the class temperature is +/- 3 °C.

If the results are satisfactory, the equipment may be kept in service as mechanically refrigerated equipment in its initial class for a further period of not more than three years.

(ii) Transitional provisions for non-independent equipment in service:

For equipment constructed prior to 6 January 2018, this provision need not be applied. In this case the equipment shall comply with the requirements of (i) or (ii) of this paragraph as applicable for the date of construction.

PROPOSAL III:

This proposal takes into account the suggestion to clarify that the equipment might start already at stabilized working conditions. In such a way, the test is no more dependent on the ambient temperature and the differentiation in duration is no more needed.
A footnote is added.

6.2.2 Non-independent equipment

(i) Non-independent equipment, the refrigeration unit of which is powered by the engine of the vehicle

It shall be verified that, when the outside temperature is not lower than 15 °C, the inside temperature of the empty equipment can be maintained at the class temperature, after cool-down and stabilization (1), when the engine is running at the idle speed set by the manufacturer (where applicable), for a minimum period of one hour and thirty minutes.

The internal temperature taken into consideration is the average temperature of the two sensors measured during the period selected for the test. The equipment is considered compliant if it meets the following conditions:

The average internal temperature is included in the ranges defined below:

the amplitude of the temperature variations around the class temperature is +/- 3 °C.

If the results are satisfactory, the equipment may be kept in service as mechanically refrigerated equipment in its initial class for a further period of not more than three years.

(ii) Transitional provisions for non-independent equipment in service:

For equipment constructed prior to 6 January 2018, this provision need not be applied. In this case the equipment shall comply with the requirements of (i) or (ii) of this paragraph as applicable for the date of construction."

(1) Equipment can be pre-cooled before the test