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Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Perishable Foodstuffs****Seventy-fifth session**

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Item 5 (b) of the provisional agenda

Proposed amendments to ATP:**New proposals****Definition of the independence of a unit taking into account mixed energy source technologies****Transmitted by the Government of France***Summary*

Executive summary:	The purpose of this proposal is to put forward a definition of the concept of a unit's independence from the refrigeration source.
Action to be taken:	Amend the relevant part (annex I) of the ATP Agreement.
Related documents:	None.

Introduction

1. Non-self-contained refrigeration units operated by mechanical vapour compression are driven by an external source of energy – electrical or mechanical – resulting from an energy conversion with an internal combustion engine operating.
2. Self-contained compression units rely indirectly on power whose source has traditionally been the contents of the tank of fossil fuel they are connected to. The tank is not part of the self-contained thermal unit but actually comprises a variable external component and is tested by the official testing station.
3. In both cases the refrigeration process depends on tank capacity, the difference being whether the vehicle engine needs to be running or not.
4. It is now no longer possible for ATP to ignore the pressure from new technologies, and in particular equipment powered by electric storage battery, dedicated or otherwise. Such batteries can even be charged while the vehicle engine is running and the refrigeration equipment is operating. There is no denying that electric storage batteries make for greater



independence, but how are we to classify equipment of this kind, powered by mixed energy sources, in relation to conventional equipment of the kind ATP was designed to deal with? We suggest that it would be most logical to classify such devices as “hybrid”.

5. The fact is that it is difficult to discuss the degree of independence of a refrigeration unit without considering the equipment where it is to be fitted, how it is to be used and the vehicle that is to carry the whole arrangement.

I. Proposal

6. Definition of the independence of a unit

A unit is self-contained if:

Case 1

- The charge time for the energy reservoir is deemed negligible,
- *The refrigeration or heating process relies on an energy source that:*
 - Is always available;
 - Cannot be interrupted except where essential for the safety of property or persons;
 - Is not shared except for fuel used in engines.
- *The refrigeration or heating process can run for 3 hours at full power without its power source requiring recharge.*

Entry in the ATP handbook:

Any procedure for charging the energy reservoir that takes less than a quarter of an hour is deemed negligible.

Case 2

- *Refrigeration or heating relies on an energy source that is permanently available, not shared and not interruptible;*
- *Refrigeration or heating can maintain the class temperature of the equipment without recharging of the power source for at least 12 hours. To be tested in accordance with annex 1, appendix 2, section 3 of ATP.*

Equipment is hybrid if:

- *The charge time for the energy reservoir is deemed negligible,*
- *The refrigeration or heating process relies on at least two power sources at least one of which:*
 - Is always available;
 - Cannot be interrupted except where essential for the safety of property or persons;

The refrigeration or heating process can run for 2 hours at full power with its power source at lowest capacity, without requiring charging.

Entry in the ATP handbook:

Any procedure for charging the energy reservoir that takes less than an hour is deemed negligible.

Where the competent authority intends to adopt a mathematical approach to estimating the length of the class temperature-maintenance period, it will need to assume that the refrigeration or heating systems are operating at rated speed as noted in the ATP test reports.

When refrigeration or heating systems permit, capacity can be regulated by applying running times in the form of on/off cycles. Otherwise only the rated capacity over the required maintenance period or the temperature-maintenance time need be taken into account.

Equipment is non-self-contained in other cases.

II. Justification

7. Technological developments in refrigeration equipment make it necessary to revise the concept of the independence of units in ATP.

III. Cost

8. No additional costs are expected for official ATP test stations, or for manufacturers who will need to have available the additional parameters required by this proposal as part of their production management.

IV. Feasibility

9. There are no additional requirements for official ATP test stations.

V. Applicability

10. No problems are foreseen in implementing the proposals.

VI. Introduction of the proposed amendment to ATP

Part of ATP concerned: Annex 1.

Addition of a definition of the independence of a unit in accordance with point I.
