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Working Party on the Transport of Perishable Foodstuffs

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Reports of informal working groups

Report of the informal working group on improvements to the approval system of ATP equipment and thermal units**Transmitted by the Government of the Netherlands on behalf of the Informal Working Group****I. Introduction**

1. The informal working group (IWG) met on 4 occasions between the October 2021 and May 2022 sessions of WP.11. All meetings were virtual.
2. The IWG concentrated, besides several questions on the interpretation of the ATP, on the topic of Modular Approach and touched on the issue of documentation for type approval and dimensioning.
3. The IWG proposes to continue its work between the May 2022 and October 2022 sessions.

II. Modular Approach**A. Introduction to modular approach.**

4. In the beginning of the ATP mechanically refrigerated equipment was approved in a combination of the insulated body and the thermal appliance. This can be regarded as one "module". In this test the appliance should be able to maintain temperature (after equilibrium was reached) for 12 hours. However, nothing in particular was said about the size of a fuel tank.
5. Later it was decided that this would lead to unnecessary number of tests with identical thermal units on different bodies. It became allowed to test the insulated body and the thermal appliance separately. This can be seen as two "modules". A calculation was prescribed to check a match between the two modules for energy demand and energy capacity. In the test of the appliance, it should be able to maintain temperature (after equilibrium was reached) for 4 hours. However, nothing in particular is stated for the size of a fuel tank.
6. The module of the thermal appliance contains the compressor, evaporator, condenser, fans, consequential valves and piping, refrigerant and the internal combustion engine to drive the compressor to make it work. Even at this moment "traditional" looking thermal appliances can be driven by an electric motor combined with a generator-set consisting of an internal combustion engine and a generator. These are tested and approved as one set in compliance with the test for a separate module as described above. Also, here the appliance

in test should be able to maintain the temperature for 4 hours but no requirements are included to determine the size of the fuel tank.

7. Due to the energy transition the internal combustion engine will be deleted and the electrical energy can be supplied for example by a battery. If the battery is to be seen as part of the module of the thermal appliance this will result in an enormous number of tests as there are many types of battery, in particular if the battery of the vehicle is to be used. If batteries are to be approved as part of the appliance it is proposed to use a third “module” for the battery or energy supply.

8. The question arises if the appliance should be able in practice to operate for 4 hours, as prescribed by the test, or not. In case the battery is treated the same way as the size of the fuel tank for the internal combustion engine, there would be no need to have the separate approval of this energy supply.

9. However, the situation with electric drive will be far more complex than with the traditional internal combustion engine. Not only can the electrical energy be supplied by different types or brands of batteries, dedicated to the unit or the traction batteries of the vehicle but also electrical energy may be supplied by vehicle axles with generators, (hydrogen) fuel cell of the carrying vehicle, a separated generator set or solar cells on the equipment. This makes it almost impossible to define a battery size.

B. Discussion

10. This was discussed at length in the informal working group. In particular it was mentioned that in article 4 of the agreement the consignor or carrier should select the appropriate equipment for the journey, this would mean the volume of diesel fuel but also the electrical energy supply. The discussion was confused by terms as autonomous/ non-autonomous, independent/non-independent and self-contained/not self-contained, complete/in-complete and removable/ non-removable. It was also suggested that modular approach could be extended to easier exchange smaller parts.

C. Questions to WP.11

11. In the end it was concluded that WP.11 should answer two basic questions to enable the informal working group to develop a proposal:

(a) Shall the electrical energy supply be an additional module that should be tested and approved?

(b) Shall a minimum capacity of electrical energy be prescribed taking into account the complexity of different available electrical energy supply systems and responsibilities of the consignor and carrier?

Add 1)

As the size of a fuel tank is not to be determined for thermal appliances with an internal combustion engine why should we be doing so for the battery? In other areas, regulations are developed to measure the performance of batteries over the life time such as the regulation on batteries for vehicles. [EUR-Lex - 52020PC0798 - EN - EUR-Lex \(europa.eu\)](#) (See for example chapter 2 article 10 on performance and durability).

Add 2)

The weight of batteries for the prescribe 4 or 12 hours running (depending on one or two module approach) will dramatically reduce the payload. Why ask for a certain battery size as separate supplies may work together complementing each other, like batteries, (hydrogen) fuel cells, regenerated braking energy or even solar energy or a generator set? In the end it is the consignor or carrier that is responsible and will select the appropriate equipment for a particular transport operation (see article 4 of the agreement). Only the consignor or carrier knows what is required for a particular journey. Shall we just help the user by stating what level of electrical energy is required for a typical use? This could be done as a marking or on the ATP certificate, in the way of 7.2.4 and 7.2.5 of the certificate.

III. Information on type-approvals.

12. Due to discussions on modular approach only limited time was available for this topic. It was said that first we had to determine which problem we should solve.

13. Two different problems were identified during discussion:

(a) Testing stations working under accreditation should be able to check all items on the test report, but items that cannot be checked as part of the test, such as type of insulation or encapsulate re-enforcements give problems. The test is only to determine the properties of the object offered for the test, nothing more, nothing less. The Competent authorities however need more specific information to control that production is in line with the tested object. This may be the type of insulation and re-enforcements or structures (chassis) in the body that cannot be seen from the outside;

(b) It was felt that manufacturers were required to give very specific information to a type that contained also “confidential” information like intellectual property of the manufacturer. There is no problem giving this essential information to the testing station nor the competent authority but article 3 in paragraph 3 (a) requires each equipment that is transferred to another contracting party to be accompanied by the test-report (that shall be seen as a type-approval certificate).

14. For the first problem it was suggested to have a look at the models no 1 and 2 to split into an information document and a test report. Each containing the appropriate information for approval and test. It may be decided to include a new type-approval certificate. However due to lack of time this has not yet yielded results.

15. On the second problem it was suggested to modify article 3 of Annex 1, Appendix 1 in such a way that the test report should not accompany the equipment on transfer but to charge the manufacturer to make the information available at the request of the competent authority of the country where the equipment is transferred to in order to issue an ATP certificate.

IV. Dimensioning

16. It was suggested by the chair of the IWG to introduce a new section in Annex 1, Appendix 1 dealing with dimensioning. This should cover the matching of energy demand of the insulated body and capacity of the thermal appliance but also compartments of insulated bodies. It was said that currently the information was scattered over Annex 1, Appendix 2 and that it would benefit the clarity in the regulation. It would also allow for new types of equipment with more than one source of thermal energy (cold), or compartments with different insulation properties and sources of cold that are now on the market.