

PROPOSALS FOR THE CARRIAGE BY ROAD OF DANGEROUS
SUBSTANCES IN PACKAGES

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INTRODUCTION

1. For over 50 years control of the carriage by road of dangerous substances (excluding radioactive substances and explosives) has been by regulations made under the Petroleum (Consolidation) Act 1928 (the "1928 Act"). This situation has rapidly changed over the last five years, and by early 1987 all of these regulations should have been revoked. Indeed, it is likely that the 1928 Act itself will be repealed within the next few years.

2. The 1928 Act was basically enacted in order to control the storage of petroleum-spirit, but, in addition, it contained provisions for making regulations controlling the carriage by road of petroleum-spirit, and for extending those controls to other dangerous substances. Until 1968 the only substances whose carriage by road was controlled in this way were petroleum-spirit, petroleum mixtures, carbon disulphide and nine gases. During the period 1968-1973 further regulations controlling the carriage of flammable liquids, corrosive substances and organic peroxides were made.

3. The 1972 Roben's Committee Report on health and safety at work (Ref 1) and the subsequent Health and Safety at Work etc. Act 1974 (the "HSW Act") introduced the concept of 'self-regulation'.

This demands that those who create and control hazards should be involved with, and should agree, the law which Government uses to control them. The HSW Act also placed a duty on the Health and Safety Commission (HSC), itself created by the Act, to progressively replace outdated legislation. It was, therefore, decided that a single comprehensive set of regulations should be drafted covering the classification, packaging, labelling and carriage by road of all dangerous substances.

4. A first Consultative Document was published in 1979, but, because of the reaction of industry to this single set of regulations covering the carriage in both bulk and in packages and for a number of other reasons, it was subsequently decided to produce three sets of regulations covering:

- (a) The carriage of dangerous substances in road tankers and tank containers;
- (b) the classification, packaging and labelling of dangerous substances; and
- (c) the carriage of dangerous substances in packages.

The first two sets of regulations have now been made, i.e. the Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations 1981 (the "Road Tanker Regulations") and the Classification, Packaging and Labelling of Dangerous Substances Regulations 1984 (the "CPL Regulations"), and it is expected that the final set dealing with the carriage of dangerous

substances in packages (the "PGR Regulations"), discussed later in this paper, will be made later this year.

5. Before dealing with the specific details of the PGR Regulations, it will be appropriate to mention the power in the HSW Act for the HSC to approve Codes of Practice. Most health and safety legislation is now written in general terms with detailed guidance provided in Approved Codes of Practice (ACOPs). It should be noted that although failure to comply with any provision of an ACOP is not in itself an offence, that failure may be used in criminal proceedings as evidence that a person has contravened a regulation to which the provision relates. In such a case it would be open to that person to satisfy the Court that he had complied with the regulation in some other way.

WHY REGULATIONS?

6. It is impossible to carry by road any commodity without putting at risk the driver of the vehicle, other road users, pedestrians and those who load and unload it. The risks involved are increased when dangerous substances are involved. They add the risk of fire, chemical burns and even explosion to the everyday risks of a road traffic accident. Kletz (Ref. 2) has indicated that during the years 1970-82 there were 16 deaths arising directly from a spillage of a dangerous substance during its carriage by road, the majority of which were from road tankers. This is 1.2 deaths per year which must be compared with 6,000 deaths per year from road accidents of all kinds. Although the number of fatal incidents in this country is very low and the most persons killed in a single incident during 1970-82 was two, the potential for a catastrophic incident is always

present, witness the tragic accident in Spain in 1978 when over 200 people were killed.

7. More recently, a survey of the local and national press from July to November 1985 carried out by the HSE records that 58 incidents involving 21 road tankers and 37 other vehicles were reported, and all obviously gave rise to local concern. In only a few of these incidents were people injured, but they were highlighted because dangerous substances were involved. Everyone involved with such incidents, whether victim, fireman or local councillor, demands tighter control over the carriage by road of dangerous substances. No-one should be naive enough to believe controls will prevent all incidents, but as well as prevention the new PGR Regulations will make such incidents easier to handle, easier to control and easier to clean up.

BACKGROUND

8. As can be seen from above, priority was given to the making of the Road Tanker Regulations and the CPL Regulations. In addition, because of the criticisms received on the first Consultative Document published in 1979 it was necessary to carry out a wide range of consultation on the detail of the PGR Regulations. It was not, therefore, until March 1984 that a Consultative Document (Ref. 3) containing the draft Regulations, a draft Approved List and two draft ACOPs - one on classification and the other on operational matters - was published. One result of the publication of this Consultative Document came over loud and clear. Most respondents believed that the proposed Regulations should be directly linked to and co-ordinated with the CPL Regulations and the Road Tanker Regulations and this has now been done.

9. The PGR Regulations will apply to bulk conveyance of dangerous substances where the Road Tanker Regulations do not apply and the application of the Regulations will be linked to the classification system used by the CPL Regulations so that a separate Approved List of dangerous substances and a separate ACOP on the classification of dangerous substances will not be required. In order that this may be done an amendment to the CPL Approved List (Ref. 4), so that Packing Groups can be included, is necessary. This requires an amendment to the CPL Regulations themselves and such a proposal has recently been the subject of formal consultation. This process of amendment is the final hurdle preventing the PGR Regulations being made and it should be cleared within a few months. The description which follows is unlikely to change although the title of the regulations may be changed.

APPLICATION

10. Unlike the Road Tanker Regulations and the CPL Regulations, the PGR Regulations will not control the carriage of all dangerous substances but only those which present the greatest hazard. Under the United Nations Recommendations (Ref. 5) substances are classified into Packing Groups I, II and III according to their hazard, and the PGR Regulations will only control those substances in Packing Groups I and II plus a few other groups of substances to which Packing Groups have not been allocated. These other Groups will comprise flammable gases, ~~toxic~~ gases, organic peroxides, asbestos, asbestos waste and other hazardous wastes.

THE LINKS WITH CPL

11. As there will be no separate Approved List of dangerous substances for PGR, the Regulations will refer directly to the CPL Approved List and to those substances listed in Part 1 of the List as dangerous for conveyance by road. Substances subject to the CPL Regulations but not listed, such as proprietary mixtures, are still subject to PGR just as they are to CPL. A consignor of an unlisted substance will have to identify its properties and classify it in accordance with CPL. If necessary, he will have to allocate it to Packing Group I or II with the help of the Schedule to the draft Regulations. The link between the definitions of 'dangerous substance' used in the Road Tanker Regulations, the CPL Regulations and the PGR Regulations means that the work necessary to identify the properties of these substances does not have to be repeated to satisfy each set of regulations.

SCOPE

12. The PGR Regulations will only apply to the substances referred to in para. 10 according to the quantity being carried as follows:

- (a) Any quantity in bulk, i.e. not in a road tanker or tank container but possibly in a tipper vehicle or skip;
- (b) any quantity of an organic peroxide or self-reactive flammable...solid- which has a self-accelerating decomposition temperature of 50°C or below or where it is required to be conveyed below a specified temperature;

- (c) in receptacles with a capacity of 5 L or more where the substance is an organic peroxide (not subject to para. (b) above), a flammable or toxic gas, asbestos or asbestos waste, certain other hazardous wastes and any other substance allocated to Packing Group I; and
- (d) in receptacles with a capacity of 200 L or more where the substance is allocated to Packing Group II.

RELATIONSHIP BETWEEN CONSIGNOR AND VEHICLE OPERATOR

13. "Consignor" is used and defined similarly in both CPL and the draft PGR Regulations. In PGR 'Consignor' and 'Vehicle Operator' have separate responsibilities although, in many situations, they will be one and the same person. For example, if an employer manufactures or stores a dangerous substance and he uses his own drivers and vehicles to deliver it to his customers then he is both 'consignor' and 'vehicle operator'. Similarly, if a customer sends his own driver and vehicle to a supplier to collect dangerous substances then he is taking on the roles of both 'consignor' and 'vehicle operator'. The 'supplier' of a dangerous substance who has a duty to ensure that it is properly packaged and labelled as required by CPL has no duties under the PGR Regulations.

EXEMPTIONS

14. There are a number of general exemptions to the draft Regulations which will be familiar to those who deal with the Road Tankers Regulations. These include the carriage of substances on vehicles which are engaged in international transport operations which are in accord with international conventions, e.g. ADR (Ref.

6). There is a further exemption for those vehicles which are only on public roads in order to allow their operators to move dangerous substances from one part to another of their adjacent premises, e.g. fork-lift trucks unloading road vehicles and the transfer of pesticides between different parts of a farm. Also exempted is the carriage of an LPG cylinder when it is used as part of equipment to be carried in a vehicle such as a tar boiler or oxypropane burning gear. This exemption also permits the carriage of a single spare cylinder for use with such equipment as long as the equipment concerned operates using only a single cylinder. The handling and use of such cylinders and equipment remains subject to the general provisions of the HSW Act and will, in the future, also be subject to the proposed Health and Safety (Flammable Gases, Oxygen and Calcium Carbide) Regulations.

MAIN PROVISIONS

15. As will be seen from the following paragraphs, the main provisions of the PGR Regulations are very similar to those of Road Tanker Regulations, but in some cases they differ in their detail and application. In summary they are:

- (a) Provision of information about the substance to both the operator and the driver of the vehicle;
- (b) design and construction of the vehicle and any freight container;
- (c) loading, stowage and unloading of the dangerous substances;

- (d) precautions against fire and explosion;
- (e) training of drivers;
- (f) supervision of vehicles; and
- (g) marking of vehicles.

GUIDANCE DOCUMENTS

16. The details that follow are only a brief summary of the proposals for the PGR Regulations. Practical guidance on the operational provisions of the regulations will be given in an ACOP whilst further details on the application of the Regulations, the need for vehicle placarding and other provisions will be contained in a Guide. Both these documents will be published as soon as possible after the Regulations are made.

INFORMATION TO BE PROVIDED BY THE CONSIGNOR

17. Separate duties are laid on the consignors of dangerous substances and on the vehicle operators concerned. Their obligations are complementary but quite distinct, and there will have to be effective liaison between them. Firstly, the Regulations require the consignor of a dangerous substance to provide sufficient and accurate information about the consignment to the vehicle operator to enable him to comply with the requirements of the Regulations that are his responsibility. This information will normally be in writing but, in some circumstances, may be provided verbally. The provision of such information by a consignor is in line with his obligations under the CPL Regulations to label packages of substances classified as

dangerous for conveyance by road. Secondly, the Regulations prohibit the carriage of dangerous substances by a vehicle operator until he has obtained from the consignor the relevant information which enables him to comply with his obligations.

INFORMATION TO BE CARRIED BY THE DRIVER

18. The Regulations place a duty upon vehicle operators to ensure that their drivers receive information in writing which:

- (a) Identify the dangerous substance(s);
- (b) describes the dangers that can arise; and
- (c) specifies the action which the driver should take in the event of an emergency.

In addition, the driver has a duty to keep this information on the vehicle and for it to be available at all times what the substance to which it relates is being carried. In order that the Emergency Services are not misled, a driver must ensure that any information regarding any other dangerous substance not being carried has been removed from his vehicle or is stored in a securely closed container. The information in writing can be in any form as long as it contains the necessary details. Many vehicle operators and drivers are likely to comply with this requirement by carrying the internationally accepted Transport Emergency Cards ('Tremcards') (Ref. 7) for the substance(s) concerned.

19. This Regulation will also be satisfied if the relevant information is carried in the form of readily available and easily seen labels on the packages or receptacles concerned, or on both package labels and accompanying written statements so long as they comply with the comprehensive requirements of Regulations 9(2) and 9(3) of the CPL Regulations or the derogations permitted from those Regulations by Regulation 10. Such labels and the accompanying statements, which consignors are obliged to provide under CPL for packages containing 250 L or more of dangerous substances, contain all the information required.

CONSTRUCTION OF VEHICLES

20. The draft Regulations place a duty on the operator of any vehicle used to carry dangerous substances to ensure that the vehicle and/or any freight container in which the substance is contained is properly designed, constructed and maintained and is suitable for the purpose for which it is used. For the vast majority of journeys subject to these Regulations specialised vehicles are not required and these Regulations do not lay down detailed design criteria such as those currently imposed for the carriage of petroleum-spirit by regulations made under the 1928 Act.

LOADING, UNLOADING AND STOWAGE

21. The PGR Regulations contain general, wide-ranging obligations as a consequence of the fact that accidents involving dangerous substances commonly occur during loading or unloading, or, more commonly, are due to the manner in which the dangerous substances are stowed on vehicles. The requirements recognise that a number of people, as well as the vehicle operator, have

responsibilities and that all have a part to play to ensure safety. As the Regulations cover a wide range of vehicles and a large number of different operations, the controls provide for a measure of flexibility. For example, the Regulations will not prohibit, under all circumstances, the carriage of substances considered to be chemically incompatible in the same vehicle. The draft ACOP on the operational provisions of these Regulations gives obvious examples of incompatible substances which should always be adequately segregated or not carried in the same vehicle. These include:

- (a) Corrosive substances and compressed gas cylinders;
- (b) reactive oxidising substances, including organic peroxides and flammable substances;
- (c) substances such as cyanides or hypochlorites which are liable to release toxic gases and acids; and
- (d) flammable substances and toxic gas cylinders.

PRECAUTIONS AGAINST FIRE AND EXPLOSION

22. The requirement here is the same as that under the Road Tanker Regulations and places a duty of all those concerned with the carriage of the dangerous substance, e.g. persons involved in loading and unloading the vehicle in addition to the driver. Such precautions would include maintaining the vehicle so as to prevent engine, wheel or tyre fires and ensuring that no ignition sources are in the vicinity during loading and unloading of flammable substances. All vehicles should carry at least a small fire extinguisher in the cab but where

flammable substances are carried it will be appropriate to carry in addition a large extinguisher in order to fight any fire as a result of a spillage of the flammable substance.

DRIVER TRAINING

23. Vehicle operators are obliged to provide adequate instruction and training for drivers of vehicles which are subject to the Regulations. In addition, the operators of vehicles whose drivers carry loads of 3,000kg or more of dangerous substances within the scope of the Regulations will be required to maintain a record of such training. This effectively means that the level of training will depend on the quantities of dangerous substances carried. Those who regularly carry more than 3,000kg will be expected to attend a formal training course of, say, two days duration such as the HAZPACK courses arranged under the auspices of the RHA/CIA/RTITB consortium, whereas those drivers who only occasionally carry small quantities of dangerous substances might only need some instruction before they commence a journey. This Regulation will probably not come into force until one year later than all the other Regulations in order to give vehicle operators a chance to organise the training required.

SUPERVISION OF VEHICLES

24. The driver of any vehicle in which 3,000kg or more of a dangerous substance are being carried in a manner subject to the Regulations will be required to park it safely. This complements the operator's duty to maintain a record of the training received by such a driver. Such a vehicle must either be parked in a safe place or be supervised at all times by the driver or a similarly competent person

over the age of 18 years. In choosing a safe place, the driver will need to consider factors such as the nature of his load, the security of the vehicle, the time of his proposed absence and the risk of interference with his vehicle at the chosen parking place.

LABELLING OF VEHICLES

25. The Regulations require the operator of any vehicle in which 500kg or more of a dangerous substance is being carried in a manner subject to these Regulations to display two orange plates on the vehicle. One of these plates must be mounted at the front of the vehicle and the other at the rear. When displayed, the plates must be kept clean and free from obstruction. Whereas they must be removed or covered up when all the load has been removed the Regulations permit the plates to remain on the vehicle if the load falls below 500kg during a journey. This derogation has been included because many journeys involve off-loading and picking up en-route and exact quantities of dangerous substances on board are sometimes difficult to estimate. The purpose of these orange plates is to inform the Emergency Services, in the event of an accident, that the vehicle is conveying a significant amount of dangerous substances and that it must be approached with extra caution. The specification of the plates is identical to that required for vehicles on international journeys in accordance with ADR.

26. Because many consignments of dangerous substances are carried as part of a mixed load containing a number of substances, it has not been practicable to impose a system of vehicle labelling which can always identify the different classes of substances which may be on board. This is especially true of those journeys where the

load is continually changing as part loads are off-loaded and replaced at intervals. Currently, some vehicles are required to identify their loads under existing legislation made under the 1928 Act with the familiar hazard diamond labels, whereas other operators voluntarily mark their vehicles in the same way. These labels are often permanently displayed and signify that such dangerous substances are regularly carried rather than that they are actually on board at any given time. The new Regulations will not prevent the display of such labels and the published Guide will encourage vehicle operators to use them or to leave them permanently affixed to vehicles if they wish. The Regulations also contain a derogation for a 'slip trailer' left on a customer's premises for him to unload. Such a trailer will not need to have an orange plate affixed to its front after the motive unit has been removed.

PUBLICITY

27. In addition to the usual press release and press conference at the time of making the Regulations, the HSE has produced a short video to publicise the introduction of the Regulations. The video outlines the requirements of the Regulations and also emphasises the links between PGR, the CPL Regulations and the Road Tanker Regulations. It will serve as an excellent introduction to formal training courses or seminars and is aimed both at those with duties under the Regulations and those employed by local authorities and the Emergency Services who will be helped by them if accidents occur. The video will be available from the Central Office of Information once the Regulations are made and copies may be purchased at a cost of £20 or hired at a cost of £10 per week.

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