

IEEP Briefing on Current Issues regarding Disposal of Refrigerators, February 2002

The current situation

Prior to the end of the year there were warnings from many quarters that there would be problems with the dumping of fridges after January 2002. To a large extent this seems to be proving to be the case, with reports of fridges being dumped in the countryside and the build up of 'fridge mountains' across the UK¹. The problem arises from the entry into force of an article under Regulation 2037/2000 regarding the removal of ozone depleting substances (ODS) prior to disposal of waste fridges and freezers. Since November, stores and suppliers of fridges have refused to take back old models of fridges free of charge, as has traditionally been the case when a new fridge is purchased. This has left the consumer with the dilemma of what to do with old fridges/freezers, with costs for removal being in the region of £50 according to some estimates. Even once a fridge is taken off the householders hands, the problem then passes to the collector (increasingly the local authority), as there are not yet any facilities in the UK that can remove ODS from the insulating foam.

The fact that there are inadequate facilities across the UK, and indeed much of the EU, may come as a surprise considering that the Regulation entered into force on 1 October 2000. This stated that controlled substances contained in domestic refrigerators and freezers would have to be recovered for destruction, recycling or reclamation during the servicing and maintenance of such equipment or before dismantling or disposal after 31 December 2001. The UK has blamed this situation on the fact that the European Commission did not confirm until July that the Regulation would apply to not only refrigerants in cooling circuits, but also CFCs and HCFCs in insulating foam. However, as set out in greater detail below, the Regulation refers only to 'controlled substances', and does not specifically include or exclude any particular uses of these substances. Only Germany, the Netherlands and Sweden had made the necessary provisions to comply with the requirements by 1 January 2002. In fact, in Germany's case there has been a requirement in their own national law since 1988 to ensure all ozone depleting substances are removed from fridges prior to recycling.

Tony Blair has ordered an investigation into what is being described as a 'multi-million pound fiasco caused by Ministers failing to prepare the country to comply with new EC Regulations'². It has been estimated that the cost of dealing with the estimated 6,500 fridges per week, together with the costs associated with reclassification of fridges and other electrical equipment as hazardous waste (see below), will be in the region of £75 million to £100 million.

According to John Convery³ of the Scottish Executive's Recycling and Waste Team, 40% of the 2.5 million fridges that are replaced in the UK each year have been traditionally exported to developing countries in working order, with the remainder being sent to scrap metal facilities or to landfill. However, exporting fridges that contain ODS that are in working order will no longer be an option.

¹ The Guardian, January 14, 2002

² Edie news, 25 January 2001

³ Edie news, 5 January 2001

The Regulation places a ban on the export of used, recycled and reclaimed ODS to countries outside of the EU, and also prohibits the export of products and equipment containing CFCs or whose function relies on the supply of CFCs. Furthermore, from January 2004, any export of refrigeration equipment containing HCFCs to any state not Party to the Montreal Protocol is prohibited.

It is possible, however, to export refrigeration equipment containing ODS to Parties of the Protocol until 2009. This will allow the export of waste for proper treatment in countries where facilities to extract ODS have already been established, ie the Netherlands, Germany or Sweden. According to a leaked Scottish Executive memo, from January 2002 the UK would have to start exporting waste refrigerators because it is unable to deal with the ozone depleting substances itself. However, capacity on the continent may also be limited. Any exports would be subject to transfrontier shipments (TFS) legislation and would need approval from the Environment Agency and other competent authorities.⁴

A further complication is that fridges will soon be classed as hazardous waste. This is expected to take effect from September in the UK, so in addition to the ODS Regulation, they will also be subject to what is still known at the moment to be the UK Special Waste Regulations (1996). At the same time as they are being reclassified, the name of the Special Waste Regulations will change to Hazardous Waste Regulations. Consequently, only operators with a special waste license will be permitted to handle waste fridges, and there will be other requirements, such as that for parties consigning or handling waste fridges to keep records for three years. This may lead to problems with waste collection facilities having to obtain new licenses and further increases in the cost of disposal.

Facilities

Several companies have announced that they will be purchasing the equipment necessary for the removal of ODS from refrigerants. However, delays in ordering such equipment, due largely to uncertainty over what the Regulation would require and the absence of clear government guidance, means that facilities are unlikely to be ready until the summer. Industry interest may also have been held back by the time limited nature of the problem. That is, it is only fridges produced before 1995 that have to undergo such treatment, as fridges manufactured after this date must be CFC free.

SITA has reached agreement with European Metals Recycling (EMR) to recycle an estimated 20,000 fridges that it collects every year, whereby fridges will be sent to one of several specialist plants that EMR is going to install. In total, EMR plans to have one mobile and six static fridge recycling plants, with a capacity of over a million units a year. The first of these plants is set to open in Willesden, north-west London in May or June 2002.

SimsMetal UK also plans to build fridge recycling facilities and claim that they will be able to handle the total arisings from the UK. This was announced as part of a package of Government measures in December. As an interim measure, the company is offering fridge storage, and has made provisions for storage facilities throughout the UK which, they say, could store all of the UK's old fridges. One large plant will be opened as soon as possible, though this is likely to be in July at the very earliest. The location of the plant has not been released.

More recently a company from Michael Meacher's own constituency, Oldham West, has announced that it has patented a new CFC removal system that can deal with 300 fridges an hour in comparison to 60 using current German technology. The new system, which demonstrates that EU legislation can in fact stimulate technological innovation, is being tested by Manchester University and monitored by the Environment Agency⁵.

It is expected that new recycling facilities will eventually open all over Europe in order to take advantage of the new market. However, there should be caution that this does not lead to overcapacity, as was the case in the Netherlands where there were bankruptcies once the 'fridge mountain' had been eroded. This problem was overcome by offering the service to EU neighbours where there were no facilities.

⁴ DEFRA, 2002

⁵ The Guardian, 16 February 2002

What is the UK government doing about the situation?

At the beginning of December the UK government announced a package of measures including:

- an extra £6 million made available until the end of March to help local authorities meet the cost of recovery and storage of old refrigerators around the country. The Local Government Association is said to be in urgent discussions with the government over the cost of storage and recycling of fridges, as the responsibility of collecting and storing waste refrigerants has mainly fallen to them. In addition, DEFRA is assessing the impacts of the Regulation and will determine whether further action will be required;
- guidance on the storage of waste refrigeration equipment;
- standards for the removal of ODS from the cooling system and insulating foam to allow industry to invest in the appropriate technology;
- information for consumers advising them how best to dispose of unwanted fridges. If the fridge is in good working order it can be resold or passed on to a new owner. Waste collection authorities will collect any waste, although there may be a charge for this service. Civic amenity sites will take old appliances free of charge; and
- a statutory instrument to assign regulatory functions and to stipulate offences and penalties has been drafted. As part of this instrument, a waste management license will be required for storage prior to treatment and the processor will have to produce waste transfer notes as proof that the CFC was processed by a licensed facility.⁶

The following guidance is available to download from the DEFRA website:

<http://www.defra.gov.uk/environment/waste/fridges/faq.htm>

- Guidance for householders on how to dispose of old fridges
- Guidance to local authorities and other operators on safe storage of waste fridges
- Guidance to local authorities and other operators on collection and disposal of waste fridges
- Draft standards for the removal of ODS from insulating foam
- Draft standards for the removal of ODS from refrigerant

Legislative background

EU Member States have committed to remove ozone-depleting substances from fridges and freezers, prior to recycling, from 1 January 2002. Therefore, from this year, all CFCs and HCFCs will have to be recovered from domestic fridges before they are recycled. The Regulation also covers CFCs and HCFCs contained in foam, and consequently insulating foam will also have to be removed.

The requirement to remove HCFCs, CFCs, halons and other ozone depleting substances, including those trapped in insulating foam, was set out in EU Regulation 2037/2000 (OJ L244 29.9.2000) regarding ozone-depleting substances, and stems from the Montreal Protocol on Substances that Deplete the Ozone Layer (1987). Regulation 2037/2000 replaced Regulation 3093/94 (OJ L333, 22.12.94), which implemented the Montreal Protocol to the Vienna Convention for the Protection of the Ozone Layer, as amended in London in 1990 and in Copenhagen in November 1992. More details on Regulations 3093/1994 and 2037/2000 can be found in Annex I, and details of implementation in the UK can be seen in Annex II.

Regulation 3093/1994 banned and restricted a number of substances in addition to those outlined in the Protocol, as well as CFCs. Under Regulation 3093/94 controls were placed on the production, import, export, supply, use and recovery of 'controlled substances' listed in Annex I of the Regulation in eight groups: CFCs 11, 12, 113, 114 and 115; other fully halogenated CFCs; halons; carbon tetrachloride; 1,1,1-trichloroethane; methyl bromide; hydrobromofluorocarbons (HBFCs); and hydrochlorofluorocarbons (HCFCs).

⁶ ENDS Report 323, December 2001

Regulation 2037/2000 implements and goes further than additional measures that were agreed by the Parties to the Montreal Protocol at their meetings in Vienna in 1995 and Montreal in 1997.

It is Article 16 of Regulation 2037/2000 that is of importance to the current situation. This concerns the recovery of used controlled substances and states [with emphasis added by IEEP] that:

1. Controlled substances contained in:
 - refrigeration, air-conditioning and heat pump equipment, except domestic refrigerators and freezers;
 - equipment containing solvents; and
 - fire protection systems and fire extinguishers

shall be recovered for destruction by technologies approved by the Parties or by any other environmentally acceptable destruction technology, or for recycling or reclamation during the servicing and maintenance of equipment or before the dismantling or disposal of equipment.

2. **Controlled substances contained in domestic refrigerators and freezers shall be recovered and dealt with as provided for in paragraph 1 (above) after 31 December 2001.**
3. Controlled substances contained in products, installations and equipment other than those mentioned in paragraphs 1 and 2 shall be recovered, if practicable, and dealt with as provided in paragraph 1.
4. Controlled substances shall not be placed on the market in disposable containers, except for essential uses.
5. **Member States shall take steps to promote the recovery, recycling, reclamation and destruction of controlled substances and shall assign to users, refrigeration technicians or other appropriate bodies responsibility for ensuring compliance with the provisions of paragraph 1. Member States shall define the minimum qualification requirements for the personnel involved. By 31 December 2001 at the latest, Member States shall report to the Commission on the programmes related to the above qualification requirements. The Commission shall evaluate the measures taken by the Member States. In the light of this evaluation and of technical and other relevant information, the Commission, as appropriate, shall propose measures regarding those minimum qualification requirements.**
6. Member States shall report to the Commission by 31 December 2001 on the systems established to promote the recovery of used controlled substances, including the facilities available and the quantities of used controlled substances recovered, recycled, reclaimed and destroyed.
7. This article shall be without prejudice to Council Directive 75/442/EEC of 15 July 1975 on waste⁷ or to measures adopted following Article 2(2) of that Directive.

Claire Monkhouse

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⁷ OJ L194, 25.7.1975, p39. Directive as last amended by Commission Decision 96/350/EC (OJ L135, 6.6.1996, p32)

ANNEX I⁸

Regulation 3093/94

Controls are placed on production, imports, exports, supply, use and recovery of 'controlled substances' listed in Annex I in eight groups: CFCs 11, 12, 113, 114 and 115; other fully halogenated CFCs; halons; carbon tetrachloride; 1,1,1-trichloroethane; methyl bromide; hydrobromofluorocarbons (HBFCs); and hydrochlorofluorocarbons (HCFCs).

Production and supply limits apply to the 'calculated level' of each of the groups. This is obtained by multiplying the quantity of each substance within a group by its ozone depleting potential so that larger cuts in production of a substance with a high depleting potential can be compensated by smaller cuts in other substances in the same group. Production is defined as the amount produced minus quantities destroyed by approved technologies minus production for use as feedstock in the manufacture of other chemicals.

Production limits apply to each producer in the EC. There is to be no production of halons after 1 January 1994; of CFCs and carbon tetrachloride after 1 January 1995; and of 1,1,1-trichloroethane and HBFCs after 1 January 1996. Production of methyl bromide is to be stabilized after 1 January 1995 at 1991 levels and cut by 25 per cent by 1 January 1998.

Production of HCFCs is not controlled. Supply of HCFCs (ie placed on the market or used by producers for their own account) is frozen by January 1995 at a level equal to the sum of 2.6 per cent of the 'calculated level' of CFCs and the 'calculated level' of HCFCs which producers supplied in 1989. This level is to be cut progressively until supply is phased out in 2015.

Some exceptions to the production and supply limits may be allowed for 'essential uses'.

The use of HCFCs is prohibited except for certain named uses. This is to ensure that they are used only where they, or CFCs, have been used previously and where there is no acceptable alternative. The Commission with the help of the usual committee may amend the list of uses.

Imports and exports of 'controlled substances' are controlled.

Controlled substances contained in commercial and industrial refrigeration equipment and air conditioning equipment, in equipment containing solvents and in fire protection systems should be recovered if practicable for destruction, recycling or reclamation during service and maintenance of equipment as well as prior to equipment dismantling or disposal.

All practicable measures must be taken to avoid leakages from commercial and industrial air conditioning and refrigeration equipment and from equipment containing solvents during manufacture, installation, operation and servicing.

Each producer, importer or exporter is to report certain information annually to the Commission and to the competent authority of the Member State including: production, quantities recycled, quantities destroyed, stock and exports. This information is to be kept confidential.

The Commission may obtain information from the national competent authorities and from undertakings. The competent authorities are to undertake the investigations which the Commission considers are necessary. If agreed by the Commission and the competent authority, officials of the Commission shall assist officials of the national competent authority in carrying out their duties.

A committee, chaired by the Commission, of representatives of Member States is established to give its opinion on certain proposals for measures to be taken by the Commission (eg allocating import quotas and deciding what constitutes 'essential uses'). Various Commission Decisions have been issued.

⁸ Extract from the Manual of Environmental Policy: The EU and Britain, IEEP 2001

Regulation 2037/2000 and amendments

The production, placing on the market and use of the 'controlled substances', the supply and production of which were phased out under Regulation 3093/94 are banned. This is an extension of the controls of Regulation 3093/94, as the ban now covers use and 'making available . . . against payment or free of charge', which is included along with 'supply' in the definition of 'placing on the market'. Consequently, the production, placing on the market and use of CFCs, including fully halogenated CFCs, halons, carbon tetrachloride, 1,1,1,-trichloroethane and HBFCs is banned.

By banning use, the Commission has responded to a European Parliament resolution on illegal trafficking of CFCs in September 1997 (OJ C304 6.10.97) which called on the Commission to ban the use of CFCs in order to eliminate demand and facilitate control. As with Regulation 3093/94, exemptions to bans and limits are allowed for 'essential uses', which have to be authorised by the Commission.

The production, placing on the market and use of methyl bromide is not to exceed 75 per cent of 1991 levels in 1999 and 2000. This level is to be reduced to 40 per cent from 2001 and 25 per cent from 2003, before the production, placing on the market and use of methyl bromide is phased out in 2004. As with other 'controlled substances', exemptions for 'critical uses' are allowed.

The production of HCFCs is frozen at 1997 levels from 2000, and will then be gradually reduced from 2008 until finally being phased out by 2026 – four years earlier than required by the Montreal Protocol. The placing on the market and use of HCFCs is to be phased out by 2009, which is six years earlier than was specified in Regulation 3093/94. Immediate bans are placed on the use of HCFCs in certain applications and their use in most new refrigeration and air conditioning equipment is prohibited from 1 January 2001.

The Regulation makes provisions for banning the production, release for free circulation and inward processing, placing on the market and use of new substances, which are listed in Annex II of the Regulation. Currently, Annex II only contains bromochloromethane, but the Commission is to make proposals as appropriate to add additional substances to this list if they are found to have a significant ozone-depleting potential.

The import controls and licences for controlled substances introduced by Regulation 3093/94 are retained, but further restrictions on exports are introduced. These include a ban on the export of controlled substances and equipment containing these substances; a ban on the export of methyl bromide and HCFCs to non-Parties; and the introduction of an authorisation procedure for exports. In banning exports of controlled substances, the Commission has responded to the meeting of the Parties to the Protocol in September 1997, which urged developed countries to consider introducing such a ban.

Requirements with respect to recovery and leakage are generally in line with those of Regulation 3093/94. However, the schemes established for training the personnel responsible in the respective competent authorities now have to be reported to the Commission, whereas formerly this was not required.

The management, reporting and inspection arrangements of Regulation 3093/94 are retained. However, there is now a stronger statement with respect to penalties for infringements of the Regulation and associated national provisions as penalties should be 'effective, proportionate and dissuasive'.

Regulations 2038/2000 and 2039/2000 make minor amendments to 2037/2000.

Annex II⁹

Formal compliance in the UK

No national legislation is usually necessary to implement an EC Regulation, which is directly applicable in law. Regulation 3093/94 for example places obligations directly on each manufacturer of ozone depleting substances. However, Member States were required to deal with a number of matters by means of their domestic legislation. The Environmental Protection (Controls on Substances that Deplete the Ozone Layer) Regulations 1996 (SI 1996, No 506) fulfil this requirement. In particular they:

- (a) designate the Secretary of State as the competent authority for the purposes of the EC Regulation;
- (b) prohibit and restrict importation, landing and unloading of certain controlled substances;
- (c) deal with the recovery of used controlled substances and with leakage as required by the EC Regulation;
- (d) confer powers on custom officers to detain controlled substances or products imported, landed or unloaded in contravention of the EC Regulation; and
- (e) contain enforcement powers and set out offences and penalties in relation to non-compliance.

The Regulations also permit the Secretary of State to require controlled substances or products that have been unlawfully imported, landed or unloaded to be disposed of harmlessly or removed from the United Kingdom.

The Environmental Protection (Non-Refillable Refrigerant Containers) Regulations 1994 (SI 1994 No 199) restrict the importation, supply and storage of non-refillable containers containing certain CFCs and HCFCs, for use as refrigerants in air-conditioning and refrigeration machinery.

⁹ Extract from the Manual of Environmental Policy: The EU and Britain, IEEP 2001