

ANGUS COUNCIL

ENVIRONMENTAL & CONSUMER PROTECTION COMMITTEE – 6 NOVEMBER 2001
CONTRACT SERVICES COMMITTEE- 13 NOVEMBER 2001

DISPOSAL OF FRIDGES AND FREEZERS

REPORT BY THE DIRECTOR OF ENVIRONMENTAL & CONSUMER PROTECTION & CONTRACT SERVICES MANAGER

Abstract

The provisions contained in EC Regulation No 2037/00 controlling ozone depleting substances will take effect from 1 January 2002. These provisions require that the insulation panels used in most fridges and freezers be removed at the end of the appliances life to ensure that the CFC's contained in the insulation does not damage the ozone layer.

1. RECOMMENDATION

It is recommended that:-

- (a) The Director of Environmental & Consumer Protection is instructed to ensure that all fridges and freezers collected in the municipal waste stream are dealt with in accordance with the Regulation.
- (b) The Contract Services Manager puts a scheme in place to ensure that all fridges are separated from the waste collected and that they are securely stored pending treatment to remove CFC's.

2. BACKGROUND

Regulation 2037 applies to the production, importation, exportation, use, recovery, recycling and reclamation and destruction of ozone depleting substances. The Regulation came into effect on 1 October 2000 however in terms of Article 16(2) of the Regulation the provisions relating to destruction of such substances do not come into force until 1 January 2002. Regulations are directly applicable in all member states and as such automatically become law on the appointed date.

For a number of years fridges delivered to Angus Council waste disposal points have been de-gassed wherever possible and the CFC's disposed of through the chemical industry arrangements. Many fridges have failed due to the release of the gases and these cannot be de-gassed.

In terms of the Regulation from 1 January 2002 all end of life fridges must have all CFC refrigerants and gas from foam used as insulation removed before final disposal. Currently there are no facilities available in Scotland to deal with such insulation foam removal. Until facilities are available fridges will require to be stockpiled in secure stores.

Article 16(6) states that member states shall report to the Commission by 31 December 2001 on systems established to promote the recovery of ozone depleting substances including the facilities available. The Scottish Executive should therefore be in a position to advise on the timescale for these specialised facilities becoming available.

3. FRIDGE TYPES

There has been a fridge labelling scheme in place for a number of year and Angus Council as a waste authority have been handling a variety of differently labelled and unlabelled fridges with different gas refrigerants and gas containing insulation foams.

Fridges come in a large range of types, most often easily classified by the label on the compressor. Of those that are labelled the R12 (the industry name for the refrigerant Dichloroflouro-methane) is a particularly common type. These are likely to have Trichloroflouromethane filled foams in their cavities as insulation. However a significant proportion of units from before the early 1990's are unlabelled and are also likely to be of the R12 type. Since 1996 R12 fridges have been replaced by R22 and R134a fridges, these are not ozone depleting substances. Unfortunately the gasses used in the insulating

foam has not been subject to as rigorous regulation from the start as the refrigerant gasses. Many more recent machines will have foam with either CFC's or an HCFC's in them.

A further problem has been one of the other characteristics of the CFC and replacement chemicals being used. Many have significant global warming potential. Over 100 years R12 has a global warming potential 8500 times that of CO₂ for the same weight. The replacement refrigerants also have a high global warming potential. For example R22 (chlorofluoromethane) with a global warming potential of 1700 for that of CO₂, is seen as a transitional solution but will be banned from 2020. R134a (tetrafluoroethane-which has been available for a number of years) is seen as a long-term replacement for R12, but has a similar global warming potential to R22. Greenpeace cites the Eco-Labeling Regulation Committee of the European Commission as wanting to rule out both R134a from being used in the future.

4. CURRENT POSITION

A quick survey has found that the majority of fridges coming into recycling centres or being uplifted from homes are of the R12 or unlabelled type. There is also a scattering of R11s and R22s in the stream with an increasing proportion of R134 types coming in. From the start of 2002 all CFC refrigerant s and gas from foam will have to be recovered, and it is possible that those chemicals with global warming potential might be included in the new regulations. Without a comprehensive listing of all fridge models and easy access to such a list, it is impossible to know which gasses have been used in the manufacture of the insulation foams the units contain.

In due course these will be supplanted by the R600a and R717s containing models. It could be assumed that gasses used in the insulation of these 'greener' models will have very limited global warming potential. Given the flammable nature of R600s and R601, and the toxic nature of ammonia both types of even the newest fridges will present problems to those managing this waste stream.

5. RECENT DEVELOPMENTS

Guidance is still awaited from the Scottish Executive on disposal arrangements. At a meeting of the Local Government Association on 28 September it was agreed that the Department of Trade & Industry would finance a report into recovery of the CFC's and to recommend standards to be applied. It is not known whether there will be a need to licence the storage sites with SEPA and to meet the Waste Management Licensing costs.

It was also agreed that a national working group would be set up to examine the current dealer take back scheme for fridges. Dealers are concerned that they will be liable for storage and treatment costs and that they will come within the regulatory framework for the special waste and waste management licensing. It is likely that a backlog of stored fridges will take until 2004 to be processed.

6. WORKING OUT THE ADDITIONAL BURDENS

Experience in Germany shows that a gate process of £20-£30 per fridge for processing costs is likely. Two companies are expressing interest in setting up a CFC recovery facility in Scotland although no facilities are currently available. The proposals are to be single facility for Scotland with a capacity for handling 300,000 units per annum, which corresponds with a number of fridges replaced annually throughout Scotland.

From a projected 4000 fridges replaced per year in Angus about half of those are currently dealt with by the Council. Scottish Executive expect this percentage to rise to 75% as retailers find their cheaper options for disposal are no longer open to them.

It would appear that the overall cost to Scottish Local Government would be £3million to £4.5million per annum with the Angus share being £60,000 to £75,000 for gate fees alone plus licensing, collection, storage and haulage costs estimated at a further £40,000 per annum.

At the COSLA Waste Management Forum held on 27 September reassurances that the full costs of the additional burdens will be met by Central Government were given. It is not clear how these will be arrived at.

7. FINANCIAL IMPLICATIONS

The Scottish Executive has accepted verbally that there is a clear new burden placed upon local authorities as a result of this Regulation. The cost to Angus Council is likely to be around £100K per annum and new funding is required to meet this cost.

As noted the relevant part of the Regulation comes into effect on the 1 January 2002 and there could therefore be costs arising in the current financial year to securely store appliances entering the domestic waste stream. Existing storage resources are limited and will need to be augmented to store this material in a secure and environmentally safe manner. Facilities will need to be found or developed in key burghs close to existing council resources.

It will be important to press the Scottish Executive for the reassurance as above to be made real as any costs arising in the current financial year will otherwise have to be accommodated within existing budgets.

8. HUMAN RIGHTS ISSUES

There are no Human Rights implication as a result of this report.

9. CONSULTATION

The Chief Executive, The Director of Finance, The Director of Law & Administration, and The Director of Property Services have been consulted on the contents of this report.

No background papers as defined by Section 50D of the Local Government (Scotland) Act 1973 (other than any containing confidential or exempt information were relied on to any material extent in preparing this report).

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SH/HA
15.10.01

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