

EUROPEAN ENFORCEMENT PROJECT  
EUROZONE

CHEMICAL LEGISLATION EUROPEAN ENFORCEMENT  
NETWORK (CLEEN)



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## CHAPTER

# 1 Introduction

This report is the result of a European enforcement project for Ozone Depleting Substances (ODS), carried out by members of the Chemical Legislation European Enforcement Network (CLEEN). The project focuses on the enforcement of the Ozone Depleting Substances Regulation 2037/2000 (which replaced Regulation (EC) 3093/94).

## 1.1

### BACKGROUND AND PROBLEM DEFINITION

The EU and its Member States are Members of the Montreal Protocol and its Amendments. All the Phase-out schedules of ozone depleting substances under the Montreal Protocol apply to the industrialized countries, and therefore to all countries of the European Union. The European Union itself has implemented the provisions of the Protocol by way of Regulations that are directly applicable in all Member States. In view of the earlier than anticipated availability of technologies for replacing Ozone Depleting Substances, it is appropriate in certain cases to provide for control measures which are stricter than those provided for in Regulation 2037/2000 and stricter than those of the Montreal Protocol.

According to the European regulations on Ozone Depleting Substances, the marketing, use and production of CFC's and certain other ozone depleting substances in the EU is prohibited. Only for domestic needs of developing countries and some medical and/or laboratory applications some production is still allowed.

In the present situation, the enforcement of ozone depleting substances legislation could be improved in many EU Member States. In the past, there was hardly any contact between enforcement authorities in this field. The coordination between policy makers and enforcers in many countries should be improved, in order to create legislation that is well enforceable.

At the end of 1999, The Netherlands Inspectorate for the Environment started the coordination of an European enforcement project on Ozone Depleting Substances Regulation (EurOzone) within the CLEEN Network. In this project, the exchange of experiences between enforcers in Europe was considerably improved. The project management was carried out by The Netherlands, and supported by several consultants (e.g. Arcadis Consulting Engineers, SIRA Consulting, Cap Gemini Ernst & Young).

## 1.2

### RELEVANCE FOR THE PROTECTION OF HEALTH AND THE ENVIRONMENT

Climate change and the deterioration of the ozone layer around the earth are problems, which occur at global level. Climate change is caused by increased concentrations of Carbon Dioxide (CO<sub>2</sub>), chlorofluorocarbons (CFC's), ozone, methane and dinitrogen oxide. Damages to the ozone layer have also implications for ecosystems and the occurrence of skin cancer.

International regulations have been set up by international organisations in order to protect the ozone layer from further deterioration. Some of these regulations have been mentioned above. However, the successful protection of health and the environment is depending strongly on an adequate approach for the implementation and the enforcement of the relevant legislation. The CLEEN Network is focusing on all relevant parties, which could contribute to a higher degree of control and enforcement of environmental legislation.

## 1.3

### PROJECT AIMS AND GENERAL SET UP

#### Project aims

The main goals of the European enforcement project for Ozone Depleting Substances Regulation were:

- Carrying out company inspections in order to gain insight in the compliance situation of companies with regard to Regulation 3093/94/EEC (and from 2000 on with regard to the new EEC Regulation 2037/2000)
- Improving compliance by informing companies about the obligations under the current and new Regulation
- Setting up a European network for the enforcement of the current and new Ozone Depleting Substances Regulation in the EU (closer co-operation and communication between Member States);
- Improving the effectiveness and efficiency of enforcement of the current and new Ozone Depleting Substances Regulation in the EU;
- Stimulating the co-ordination and co-operation between policy makers and enforcers, in order to ensure that the enforceability of the new EU Regulations on Ozone Depleting Substances will be given consideration.

#### General project set up

The project is divided into a number of phases:

- Definition Phase;
- Orientation Phase;
- Operational Phase;
- Final Reporting Phase.

All phases were finalised with a conference, which was attended by the participating countries and the European Commission. During the first EurOzone Conference in the Operational Phase, two enforcement projects were defined as subprojects:

- 'Leakages from cooling installations and safe removal of all Ozone Depleting Substances and destruction of CFC'
- 'Illegal trade of Ozone Depleting Substances'.

## 1.4 PARTICIPATING COUNTRIES

The following countries were participating in this enforcement project:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom. Some countries were more involved in the two subprojects, which were defined during the first EurOzone Conference. The European Commission (DG ENV) was involved in the project and participated in some events.

However, not all countries could fully participate in all the EurOzone activities such as attending the conferences and performing inspections. Spain participated as an observer. A list of the participating countries and the names of the EurOzone Focal Points and project participants are presented in Annex 1.

## 1.5 RELATION WITH THE CLEEN NETWORK

During a combined enforcement conference of the SENSE (Solid ENforcement of Substances in Europe) and EUREX (EURopean enforcement project on EXisting substances) project in Dresden (Germany, May 1999), participants agreed upon the need to maintain the experiences gained and to extend them to other fields. Therefore it was decided to establish a new network by the name of CLEEN (Chemical Legislation European Enforcement Network), in which all Member States and Norway participate on a voluntary basis, covering the whole field of enforcement of chemical substances legislation. The EurOzone project is carried out under the umbrella of this CLEEN network.

## 1.6 INVOLVEMENT OF THE EUROPEAN COMMISSION

The European Commission (DG ENV) was actively involved in the discussions which took place during the project, and provided the parties with useful information on relevant and updated legislation, permits on the use of CFC's and giving information on CFC management strategies.

Other DG's of the European Commission, such as DG ENTR and DG TAXUD, were informed during the project about the progress and results. Because of a lack of capacity it was not always possible for these DG's to join the EurOzone Conferences and –meetings. Nevertheless, DG TAXUD has shown great interest for future initiatives of EurOzone.

## 1.7 INVOLVEMENT OF CUSTOMS AUTHORITIES

In order to improve the effectiveness and efficiency of enforcement of legislation of Ozone Depleting Substances, a cooperation with the Customs Authorities was set up. This cooperation focused on the import and export of Ozone Depleting Substances in the subproject on illegal trade.

During the Orientation and Operational Phase, the cooperation with Customs Authorities has been set up and will be improved further in the near future, thus laying the foundation for a further strengthening of the European and national enforcement network.

## 1.8 TARGET GROUPS OF THIS REPORT

The target groups of this report are the European Commission (DG ENTR, DG ENV, DG TAXUD and possibly DG SANCO), National (policy and enforcement) Authorities and Customs Authorities

## 1.9 STRUCTURE OF THIS REPORT

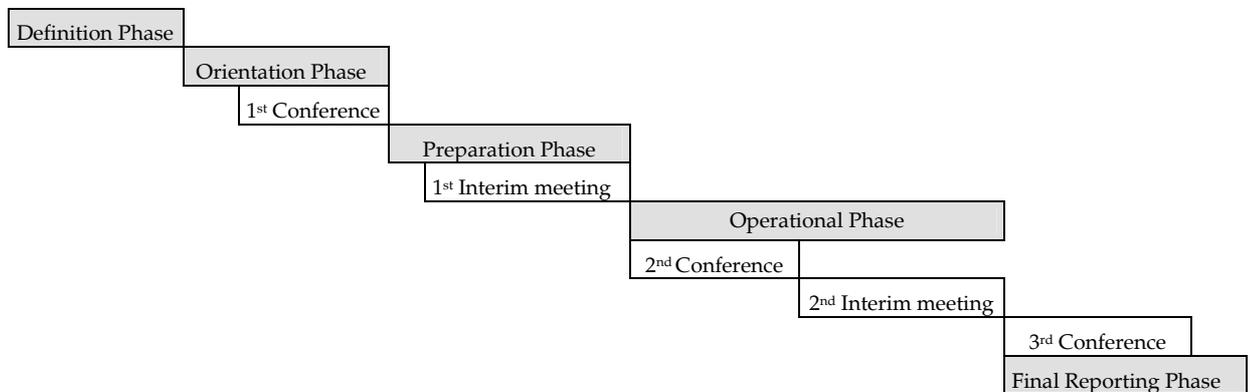
- Chapter 2 presents the project structure.
- Chapter 3 gives a brief outline of the EU Regulation 2037 on substances that deplete the ozone layer. It also gives a short outline of the relationships of the Regulation with the requirements of the Montreal protocol, and the two subprojects that were identified during the execution of the project.
- Chapter 4 presents the results of the subproject on 'leakages from cooling installations and safe removal of all ODS and destruction of CFC's'.
- The results of the subproject on 'illegal trade of ODS' are presented in chapter 5.
- Other national enforcement results and –activities related to 'leakages' and 'illegal trade' are presented in chapter 6.
- Conclusions and recommendations are summarised in chapter 7. These conclusions and recommendations are based on two aspects: (1) The results of the inspections that were received until the end of 2002 and (2) the working group sessions and discussions during the 3<sup>rd</sup> EurOzone Conference in Copenhagen in September 2002.  
Since the statistics of the inspection results were not available per country, only average figures for all participating countries could be presented in this report.
- The Annexes provide general and background information.

## CHAPTER

# 2 Project structure

## 2.1 INTRODUCTION

The EurOzone project is organised in a number of phases, combined with several conferences and interim meetings. A schematic overview of these phases is presented below.



## 2.2 DEFINITION PHASE

### October- December 1999

During the Definition Phase a project proposal was developed by The Netherlands. Also the network of authorities involved in the enforcement of legislation on ozone depleting substances was investigated. The project proposal was sent to them, with a request for cooperation.

## 2.3 ORIENTATION PHASE AND FIRST CONFERENCE

### January 2000 – May 2000

During the Orientation Phase an overview of the national legislation and the current enforcement situation in all participating countries was compiled. A final project plan was developed, which included the reactions of participating countries on the project proposal.

### First Conference (May 2000)

A first enforcement conference was held in Athens (Greece) on 24 and 25 May 2000. At this first EurOzone Conference information was exchanged on the enforcement of legislation for ozone depleting substances. The EurOzone project plan was discussed and agreed. Two subprojects were defined within the EurOzone project:

- A project on 'Leakages from cooling installations and safe removal of all ODS and destruction of CFC';
- A project on 'Illegal trade of Ozone Depleting Substances'.

It was decided to include a Preparation Phase in which the national authorities could prepare the planned enforcement actions for the Operational Phase of the project.

## 2.4

### PREPARATION PHASE AND FIRST INTERIM MEETING

#### **June 2000 – January 2001**

During the Preparation Phase the following actions were carried out:

- Informing companies on the ODS Regulation, which came into force on 1 October 2000;
- Drafting of two guidance manuals for the two subprojects, making use of existing manuals on both EU level and national level;
- Developing of an inspection report format;
- Identifying a selection of companies to be inspected in the Operational Phase;
- Training of inspectors and customs officers;
- Preparation of enforcement activities by inspectors and custom officers.

#### **First Interim Meeting (January 2001)**

An Interim Meeting was organised in January 2001 in Dortmund. During this Interim Meeting, the results of the Preparation Phase and the manuals for the two subprojects were discussed. The manuals are enclosed as an Annex to this report (Annexes 2 & 3). Agreement was achieved on the actions to be carried out during the Operational Phase of the project (number of company inspections, involvement of customs authorities, practical issues, etc.).

## 2.5

### OPERATIONAL PHASE

#### **February – August 2002**

During the Operational Phase, company inspections were carried out as a part of the subprojects, which were both coordinated by The Netherlands.

#### Subproject 1: 'Leakages from cooling installations and safe removal of all ozone depleting substances and destruction of CFC'

This subproject concentrates on the enforcement of regulations on leakages of ozone depleting substances from cooling installations and on the safe removal and destruction of all CFC's. During the Operational Phase, inspections were carried out, focusing on:

- Mobile cooling installations on trucks and sea ships;
- Cooling installations at companies.

#### Subproject 2: 'Illegal trade of Ozone Depleting Substances'

This subproject concentrates on the enforcement of regulations concerning illegal trade (also transit) and/or production of ozone depleting substances (as a chemical or in products), through information exchange and cooperation with customs authorities. Inspections were carried out during the Operational Phase (also unannounced visits).

## **2.6** SECOND CONFERENCE

### **September 2001**

A second EurOzone Conference was held in **Austria** (Vienna), on 11 and 12 September 2001. Discussions took place about the interim results of inspections carried out so far. Based on the experiences that were exchanged during the discussions, the planning and the actions to be taken for the rest of the Operational Phase of the project were agreed upon.

## **2.7** SECOND INTERIM MEETING

### **February 2002**

A second Interim Meeting was held in February 2002 (Valencia, Spain). At this Interim Meeting two main items were discussed: The first interim report and the results of the actions agreed upon during the second EurOzone Conference in Vienna.

## **2.8** THIRD CONFERENCE AND FINAL REPORTING PHASE

### **Third Conference (September 2002)**

The third EurOzone Conference took place in September 2002 in Copenhagen, Denmark. At this conference, the overall results of the EurOzone project were presented and discussed. Discussions were held on the recommendations for the improvement of legislation of ozone depleting substances, based on the enforcement results and experiences gained during the

### **Final Reporting Phase (September 2002 – March 2003)**

The collection of additional information and the drafting of the final report took place between November 2002 and March 2003.

## CHAPTER

# 3

## Brief outline of Regulation 2037/2000

### 3.1 INTRODUCTION

This chapter briefly describes the requirements of EU Regulation 2037/2000 on Ozone Depleting Substances, which came into force on 1 October 2000. The obligations related to the aims and the focus of the EurOzone project will be briefly mentioned.

### 3.2 THE MONTREAL PROTOCOL AND ITS RELATIONSHIP WITH EU REGULATION 2037/2000

The EU and its Member States are members to the Montreal Protocol and its Amendments. All the phase-out schedules under the Montreal Protocol applying to the industrialised countries also apply to the European Union. The EU itself has implemented the provisions of the Protocol by way of Regulations that are directly applicable in all Member States. Currently, EU Regulation 2037/2000 (which replaced Regulation (EC) 3093/94) is in force.

### 3.3 SCOPE

The Regulation applies to *"...the production, importation, exportation, placing on the market, use, recovery, recycling and reclamation and destruction of chlorofluorocarbons, other fully halogenated chlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane, methyl bromide, hydrobromofluorocarbons and hydrochlorofluorocarbons, to the reporting of information on these substances and to the importation, exportation, placing on the market and use of products and equipment containing those substances. This Regulation shall also apply to the production, importation, placing on the market and use of substances in Annex II"* (article 1 of the Regulation). Placing on the market means *"the supplying or making available to third persons, against payment or free of charge, of controlled substances or products containing controlled substances covered by the regulation"* (article 2).

Use means *"the utilisation of controlled substances in the production or maintenance, in particular refilling, of products or equipment or in other processes except for feedstock and processing agent uses"* (article 2).

### 3.4 PHASE OUT SCHEDULE

The Regulation contains a phase out schedule with regard to:

- The control of the production of controlled substances (article 3);
- The control of the placing on the market and use of controlled substances article 4).

According to article 4.4.iii it is forbidden to use controlled substances for maintenance or servicing of refrigeration and air-conditioning equipment and in fingerprinting processes.

According to article 4.4.iv the placing on the market and use of halons that have been recovered, recycled or reclaimed in existing fire protection systems is not forbidden until 31 December 2002 or to the placing on the market and use of halons for critical uses as set out in Annex VII.

According to article 4.4.v fire protection systems and fire extinguishers containing halons shall be decommissioned before 31 December 2003, and halons shall be recovered in accordance with article 16 (except for uses listed in Annex VII);

- The control of the use of hydrochlorofluorocarbons (article 5).

### 3.5 TRADE REQUIREMENTS

The Regulation introduces in its Chapter III a number of requirements with regard to:

- Import from third countries (licences) (article 6);
- Import of controlled substances from third countries (article 7);
- Import of controlled substances from a State not party to the Protocol (article 8);
- Import of products containing controlled substances from a State not party to the Protocol (article 9);
- Import of products produced using controlled substances from a State not party to the Protocol (article 10);
- Export of controlled substances or products containing controlled substances. According to article 11 it is forbidden to export chlorofluorocarbons, other fully halogenated chlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane and hydrobromofluorocarbons or products and equipment, other than personal effects, containing those substances or whose continuing function relies on supply of those substances (except for exports mentioned in article 11);
- Export authorisation (article 12);
- Exceptional authorisation to trade with a State not party to the Protocol (article 13);
- Trade with a territory not covered by the Protocol (article 14);
- Notification of Member States (article 15).

### 3.6 EMISSION CONTROL

The Regulation has two major articles dealing with the emission control of controlled substances, namely:

- Recovery of controlled substances;
- Leakage of controlled substances.

#### **Recovery of controlled substances**

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 (article 16).

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 have to be recovered for destruction by technologies approved by the Parties or by any other acceptable destruction technology, or for recycling or reclamation during the servicing and maintenance of equipment or before the dismantling or disposal of equipment (article 16).

**Leakages of controlled substances**

Article 17 of the Regulation gives a number of obligations to control leakages of controlled substances. Article 17.1 mentions that all precautionary measures practicable have to be taken to prevent and minimise leakages of controlled substances. In particular, fixed equipment with a refrigerating fluid charge of more than 3 kilogram has to be checked for leakages annually.

Member States have to define the minimum qualification requirements for personnel involved. Member States have to report to the Commission the programmes that are being developed on the requirements mentioned here above.

**3.7****REPORTING, INSPECTION AND PENALTIES****Reporting**

Each producer, importer and exporter of controlled substances has to report a number of data to the Commission for each controlled substance on an annual basis. A copy of these data has to be forwarded to the Competent Authority of the Member State (article 19.1).

**Inspection**

Competent authorities of Member States have to carry out inspections in order to check the requirements of the Regulation (article 20.3). Member States have to conduct random checks on imports of controlled substances, and have to communicate the schedules and outcomes of these checks to the Commission.

**Penalties**

Member States have to determine the necessary penalties applicable to breaches of the Regulation. These penalties have to be effective, proportionate and dissuasive.

## CHAPTER

# 4 Results Subproject 'Leakages'

## 4.1

### INTRODUCTION

This chapter presents the enforcement results of the subproject on the control of 'leakages from cooling installations and safe removal of all ODS and destruction of CFC'. The results mentioned below refer to the inspections carried out by the participating countries, which were reported until December 2002.

The subproject focuses particularly on (emission) control of leakages of cooling installations with regard to article 17.1 of the Regulation.

## 4.2

### WORKING METHOD AND CONSIDERATIONS

#### **Working method**

A working method was developed for the inspections concerning the regulations on leakages of cooling installations and to ensure safe removal of ozone depleting substances and destruction of CFC's. An outline of this working method is enclosed in Annex 2.

The working method was developed (1) to provide a uniform tool for all participating countries and their inspectors and (2) to facilitate the comparison of inspection results and the exchange of experiences.

#### **Considerations**

##### Number of inspections to be performed

In principle it was agreed to inspect within this subproject per country a minimum of two companies and one transport control during a (part of) a day. In cases when a transport control is not manageable, three company inspections should be performed at a minimum.

##### Acceptable/maximal leakage percentage

EU Regulation 2037/2000 gives no definition of the acceptable or maximal limit of leakages of a cooling installation. Article 17 of EU Regulation 2037/2000 only says, "All precautionary measures practicable shall be taken to prevent and minimise leakages of controlled substances". The maximum leakage percentage can depend on national legislation, in those cases were this is defined. It should be noted that there are no tight cooling installations at all. Even if no leakages can be detected or can be measured, cooling gasses can disappear.

Within the EurOzone project the following maximum percentages were handled:

- 10% leakage per year for fixed installations;
- 30% leakage per year for sea going ships and mobile installations.

The maximum allowed percentage per year for sea going ships and mobile installations is higher, due to extreme movements, temperature differences and corrosive atmospheres. The % of leakage per year has been defined as "the fraction of the nominal refrigerant mass needed by the cooling installation that is lost, due to diffuse emissions during normal operations over a period of time, in proportion to the nominal refrigerant mass needed by the cooling installation, extrapolated to a period of 1 year". These percentages are not applicable in cases where accidents did happen that the responsible companies could not prevent.

#### Rate of preventive care/maintenance

EU Regulation 2037/2000 required that (article 17) "...fixed equipment with a refrigerant fluid charge of more than 3 kg shall be checked for leakages annually". During the inspections the rate of preventive care was evaluated. Also it was checked if this maintenance has been carried out by qualified personnel.

#### **Other tools**

During the Operational Phase, an overview was drafted by Denmark, France and The Netherlands of how terms such as 'leakage', 'sufficient preventive maintenance', 'refill', etc. are defined. This overview is enclosed in Annex 7. The information was distributed amongst the EurOzone network in order to improve future inspections within EurOzone.

### **4.3** PARTICIPATING COUNTRIES

In advance, the following countries were willing to perform inspections of fixed and mobile installations within this subproject on 'leakages': Austria, Belgium, Finland, France, Germany, Netherlands, Norway, and the United Kingdom. The European Commission also participated in this subproject and provided participating countries with additional information during the project.

Inspections have been carried out and reported by 7 countries: Austria, Belgium, Finland, France, Germany, The Netherlands and Norway. The United Kingdom could not perform any inspections, due to lack of capacity and shift of enforcement priorities.

The results have been analysed and reported by the project management. The enforcement results are presented below. The enforcement results represent all inspection report forms submitted to the project management until 25 August 2002.

### **4.4** ENFORCEMENT RESULTS

#### **4.4.1** GENERAL RESULTS OF THE INSPECTIONS

##### **General note**

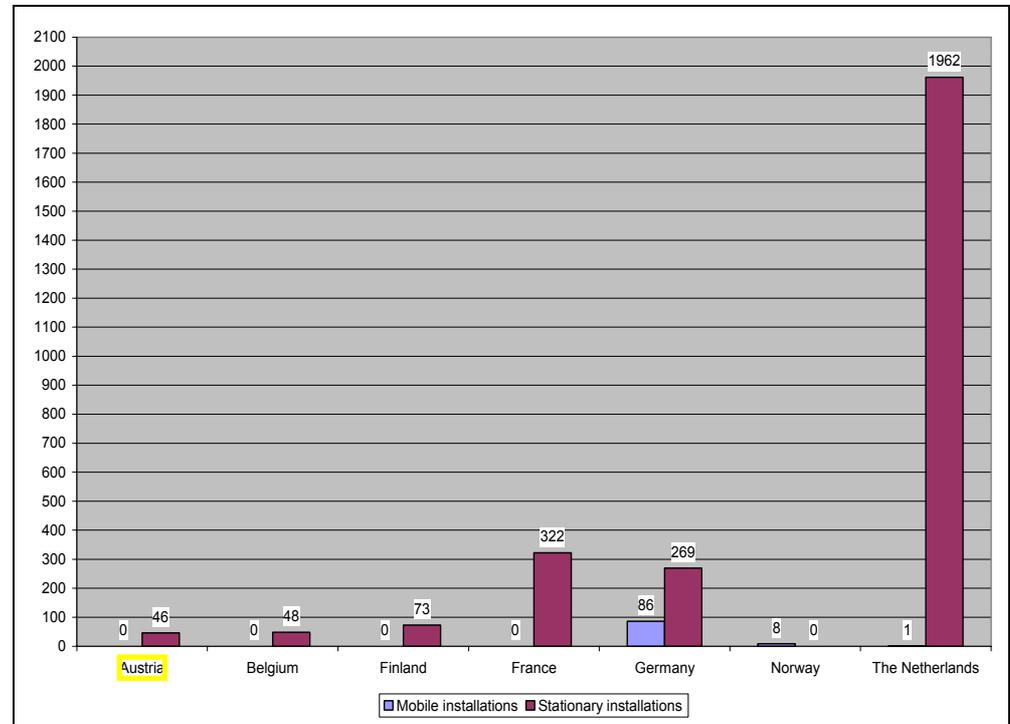
All figures presented in this paragraph are related to the number of inspected companies (unless otherwise mentioned). The figures presented in paragraph 4.4.2 relate to the number of inspected cooling installations. This because more cooling installations can be inspected at one company.

##### **Number of companies and installations inspected**

In total, 535 companies, representing 2720 cooling installations have been inspected. Also 95 mobile cooling installations were inspected. All inspections were carried out in year 2001/2002.

The numbers of inspected stationary and mobile installations inspected per country in the framework of this EurOzone project are presented in figure 4.1.

Figure 4.1: Number of inspected stationary and mobile installations per country



#### Selection of companies for inspection

Selection of companies for inspections were done 'at random' or based on their reputation or tips provided by other authorities.

In 61% of all (535) cases the selection was 'at random', in 36% the selection method could not be reported or has been unclear, and in only 3% (17 cases) it was based on reputation or tips.

#### Announced and unannounced company inspections

From all 535 company inspections performed, 31% (165) were announced and 69% (370) were not announced. There were large differences per country: (almost) all inspections were unannounced in Austria and The Netherlands, while most inspections were announced in Finland and France. In Germany about half of the inspections was announced.

### Purpose of use

The purpose of use of the cooling installations at the companies inspected is presented in the table below.

Table 4.1: Characterisation of the 'purpose of use' of inspected companies

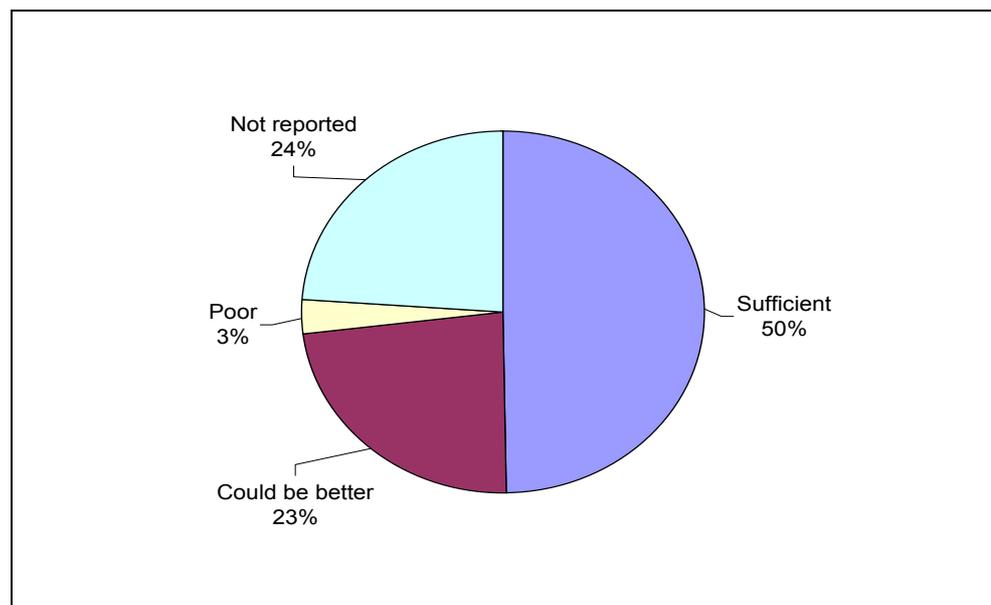
Shops	4
Hotel/restaurants/cafés	50
Catering industries	8
Fruit auctions	38
Chemical industries	14
Agriculture/horticulture	54
Supermarkets	40
Office buildings	93
Cooling and freezing industries	109
Others	114
Not reported	11

Most inspections took place at cooling and freezing industries (109), office buildings (air conditioning, 93) and Agriculture/horticulture (54). 114 objects were categorised as 'others', such as breweries, milk - and food industry. Other inspections were done at supermarkets, chemical industries, fruit auctions, catering industries, hotel/restaurants/cafes, and shops.

### General impression of the administration

Inspectors were asked to report the general impression of the administration of the companies in relation to ODS. The results are presented in the figure below.

Figure 4.2: Impression of the administration in relation to ODS

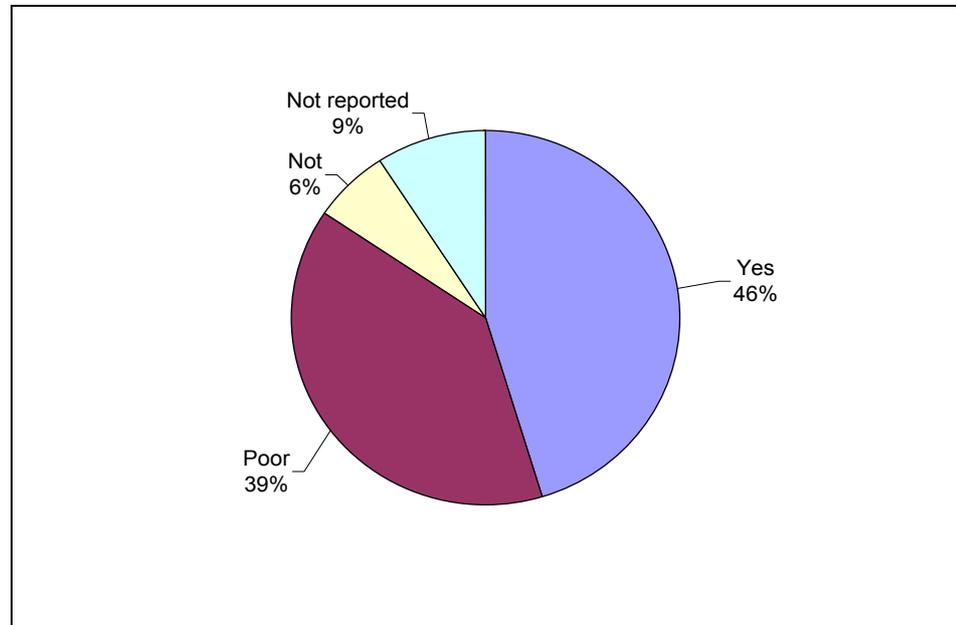


In 50% the administration was found to be sufficient, and in 23% it was found that it could be better. In 3% it was qualified as poor. In 24% of all cases it could not be reported.

**Is the company familiar with the requirements of the Regulation?**

Inspectors were asked to indicate if the company is familiar with the requirements of the regulations.

Figure 4.3: Knowledge about regulations on ODS



In 46% of all cases, the company was familiar with the requirements of the Regulation. In 39%, the knowledge was qualified as 'poor', and in 6% there was no knowledge at all. In 9% it could not be reported, or it was unclear.

#### 4.4.2

#### RESULTS OF THE INSPECTIONS OF COOLING INSTALLATIONS

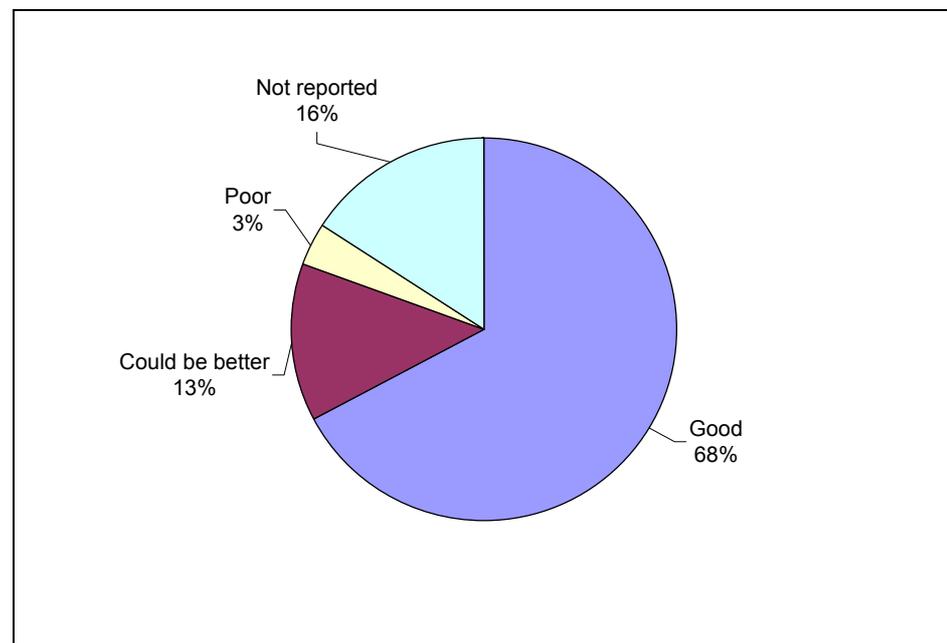
##### Cooling installations operational or not operational

From all 2815 cooling installations inspected, it turned out that almost all installations (2737) were operational. 41 Installations were not in use. In 37 cases it was not clear / not reported.

##### General impression of the technical condition of the installation

Inspectors were asked to indicate the general impression of the technical condition of the installation.

Figure 4.4: Technical condition of the installations

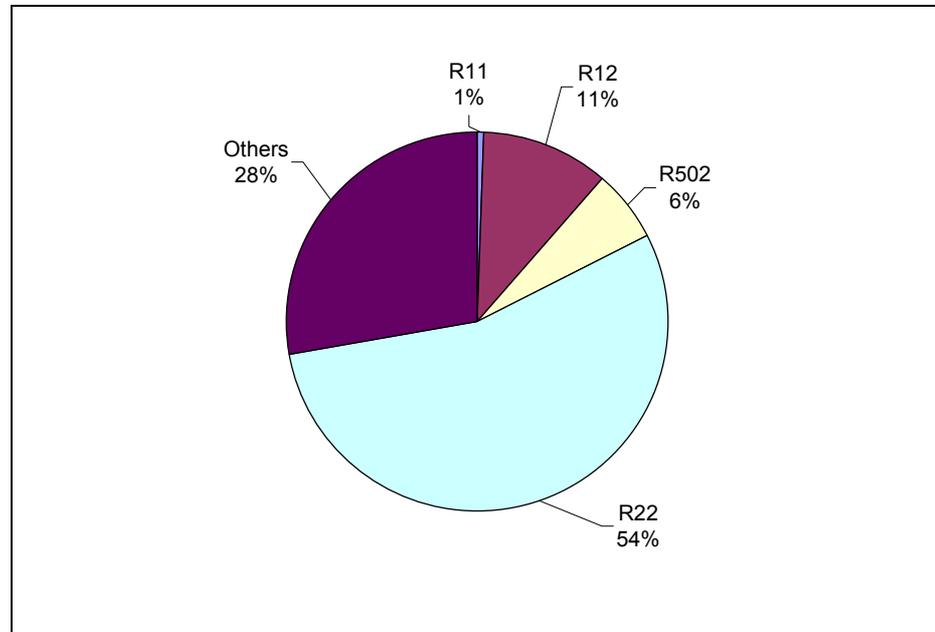


Of all cooling installations inspected, the general impression of the technical condition was found to be good in 68% of all cases. In 13% of all cases the technical condition could be better, and in 3% the technical condition was identified as poor. In 16% of all cases the technical condition could not be reported or could not be qualified.

### Categories of refrigerants used

Inspectors were asked to report the categories of refrigerants used at the cooling installations. The results are presented below.

Figure 4.5: categories of refrigerants used at the cooling installations



Most cooling installations inspected contained R22 (54%), R12 (11%) and R502 (6%). In 28% other cooling gasses were used, such as (amongst others) R401, R404, R407 and R507.

### Checking possible illegal use of cooling gasses

At the inspections of cooling installations the possible illegal use of CFC's was checked. In 25 of all (2815 inspected) cases CFC's (R11, R12, R502) were actually used, which is illegal. In France, 10% of all (245) installations inspected (22 cases) were still working with CFC's (R12, R11, R502), but it could not be checked in all cases if the installation has been refilled after October 2000, so that CFC's have been used illegally. Following inspections during which sanctions were taken (legal reports) CFC's were planned to be replaced by other gasses (HCFC's, HFC's) in the summer of 2001 in most of these installations.

Two cases of possibly illegal use were detected in **Austria**: one trader which filled R12 into air conditioning equipment of a car; a second trader stored R502 of which the use has been unclear. One irregularity was found in The Netherlands.

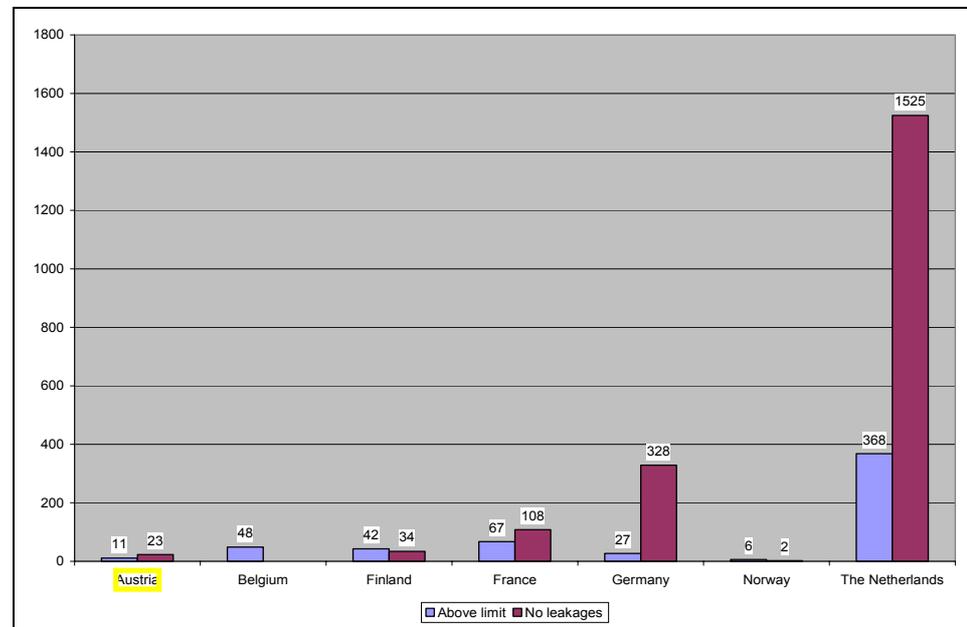
### Detection of leakages

Inspectors were asked to identify eventual leakages of cooling installations, taking into account the limits that were formulated in advance (see also paragraph 4.2; 10% leakage per year for fixed installations; 30% leakage per year for sea going ships or mobile installations). It should be noted that there are no cooling installations without any leakages. Even if no leakages can be detected or measured, cooling gasses can disappear.

From all 2815 installations inspected, leakages above limit were found at 569 installations (20%). No leakages or leakages less than the limit values were found at 2020 cooling installations (72%). In the other 227 cases (8%), the leakage rate could not be identified and/or could not be reported.

The number of leakages from cooling installations found per country is presented in the figure below.

Figure 4.6: Leakages of (mobile and stationary) cooling installations, per country



Note:

- For France the numbers refer only to installations where it was possible to calculate a leakage rate. For 147 installations, it was not possible to calculate the rate because of lack of data. 61 installations had no (detected) leakage at all, while 77 installations had a leakage rate between 1 and 10%.
- In Germany, 26 stationary installations and 1 mobile installation had a leakage percentage above the limit. 78 Stationary installations had a leakage percentage between 1 and 10%. No leakages could be detected in 165 stationary installations and 85 mobile installations.

### Causes of leakages

Inspectors were asked to identify the possible causes of leakages, like negligence, non-professional maintenance, accidents, etcetera. In 10% of all 2815 cases it was identified that the leakage was caused by the company.

### Sufficient preventive maintenance

Inspectors were asked if companies provided sufficient preventive maintenance, with respect to frequency, profoundness, etc.

In 1689 (60%) of all installations inspected, the preventive maintenance was found to be sufficient. In 563 cases (20%), the level of preventive maintenance was defined as 'could be better', and in 422 cases (almost 15%) the level of preventive maintenance was defined as 'poor'. In 141 cases this question could not be answered/reported.

### Safe removal of regulated CFC's

In the inspection report form a question was integrated in which was asked if regulated CFC's (used in the installation) have been removed safely, according to article 16.1 of the Regulation. Safe removal of regulated CFC's could be guaranteed in 1323 (47%) of all 2815 cases. In 225 cases (almost 8%) safe removal was not in compliance with the Regulation. In 1267 cases (almost 45%) the answer on this question could not be reported.

### 4.4.3 FOLLOW UP ACTIONS

#### **Follow up actions are country specific**

Follow up actions, based on the results of the company inspections, are the primary concern of the Member Countries because of national competencies. Different options can be chosen for administrative or legal follow up actions to companies concerned, such as :

- Warning letter;
- Administrative sanctions;
- Financial penalties;
- Others, like providing companies with additional information on specific (European and national) legislation that is in force.

#### **Asking additional information after the visit**

At 142 of the 535 companies inspected, additional information was asked after the visit had taken place; in 345 cases this has not been necessary. In 48 cases it was not reported, possibly because follow up actions are still in procedure.

#### **Sanctions**

Countries were asked to report the sanctions based on the results of the inspections. Taking into account the provisional character of the data so far, the following results can be given. Sanctions were taken in 185 cases:

- 121 cases: warning letters;
- 64: administrative sanctions/legal report/penalties (including the reports in which the company inspection was evaluated).

In 13 of all inspections done, the question whether or not sanctions were taken could not (yet) been answered. In 324 cases no sanctions were given.

# CHAPTER 5 Results Subproject 'Illegal Trade'

## 5.1 INTRODUCTION

This chapter presents the results of the second subproject that was carried out within EurOzone: control of regulations with regard to illegal trade of ozone depleting substances. The results mentioned below refer to the results of the inspections carried out by participating countries, which were reported until 1 December 2002.

## 5.2 WORKING METHOD AND CONSIDERATIONS

### Working method

A working method was developed for this subproject, similar to the working method that was compiled for the subproject on 'leakages'. An outline of this working method is enclosed in Annex 3. The working method was developed (1) to provide a uniform tool for all participating countries and their inspectors and (2) to facilitate the comparison of inspection results and the exchange of experiences.

### Considerations

#### Scope of illegal trade

The scope of the inspection on relevant legislation considered both documented and not documented trade. Starting point for the inspections *can* be the granted licences from the European Commission but this is not primarily necessary; other information sources can also be used to start investigations on illegal trade of ODS.

#### Scope of the company visits

In article 1 of the European Regulation 2037/2000 the scope of the Regulation is described: *"This Regulation shall apply to the production, importation, exportation, placing on the market, use, recovery, recycling and reclamation and destruction of chlorofluorocarbons, other fully halogenated chlorofluorocarbons, halons, carbon tetrachloride, 1,1,1-trichloroethane, methyl bromide, hydrobromofluorocarbons and hydrochlorofluorocarbons, to the reporting of information on these substances and to the importation, exportation, placing on the market and use of products and equipment containing those substances. This Regulation shall also apply to the production, importation, placing on the market and use of substances in Annex II"*

Considering the wide scope of the Regulation it was decided to focus only on substances (not on products and equipment).

### Selection of companies for inspection

The number and scope of inspections performed depended on the human and technical resources available in each country. Within this subproject it was proposed to inspect:

- One licensed company. An overview of importing companies was provided by the European Commission;
- One company of which a license for import and/or export has been refused; and
- One other company, selected from tips of custom, government or network.

An overview of companies with an EU license is enclosed in Annex 4.

### Additional information for tackling illegal trade of ODS

Additional information was reported by Greece and The Netherlands to help inspectors and custom authorities for tackling illegal trade of ODS. These suggestions are presented in Annex 8. Also additional information from UNEP is included in this Annex.

## 5.3

### PARTICIPATING COUNTRIES

A number of countries were willing to perform inspections at companies in order to check relevant regulations and to identify eventual illegal trade of ozone depleting substances. The following countries participated in this subproject: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, and the United Kingdom. The European Commission also participated in this subproject and provided participating countries with additional information on legislation, overviews of companies with an import/export licence, etc. Inspections regarding this subproject have been carried out and reported by Denmark, France and The Netherlands.

## 5.4

### ENFORCEMENT RESULTS

Only a few statements about the inspections can be given, because the number of reported inspections with regard to illegal trade are lower than expected.

### 5.4.1

#### GENERAL RESULTS OF THE INSPECTIONS

##### **Total number of inspections**

In total, 10 inspections with regard to illegal trade were performed and reported: 4 by Denmark, 1 by France and 5 by The Netherlands. All inspections were carried out in 2001.

##### **General impression of the administration**

At 5 of the 10 companies inspected the administration was found to be sufficient, and in 4 cases it could be better. In one case it was not reported.

##### **Is the company familiar with the requirements of the Regulation?**

Inspectors were asked to define if the company is familiar with the requirements of the regulations with regard to trade of ODS. 8 out of 10 companies were familiar with the obligations of the Regulation, at one company the knowledge was 'poor', and one company was not familiar with the regulations.

**In compliance with the license?**

No violations with regard to the licenses could be detected in The Netherlands. From the inspections carried out in Denmark, the compliance level could not (yet) be identified. The explanation for this is that there were no companies in Denmark that had sought a license for the import of controlled substances and therefore the question was not applicable. The retailers visited in Denmark obtained all their coolants from other EU countries.

One of the inspected companies in France was not in compliance: it concerned an illegal import of 18 tons HCFC 141b from China. This was not allowed because China did not ratify the Copenhagen amendment to the Montreal Protocol. The substances have been sent back to China.

## 5.4.2

### FOLLOW UP ACTIONS

Follow up actions, based on the results of the company inspections, are the primary concern of the Member Countries because of national competencies. Different options can be chosen for administrative or legal follow up actions to companies concerned, such as :

- Warning letter;
- Administrative sanctions;
- Financial penalties;
- Others, like providing companies with additional information on specific (European and national) legislation that is in force.

**Sanctions**

Only in one case sanctions have been taken. This sanction concerned a violation tracked down in France. The sanction concerned a warning letter and an administrative sanction.

## CHAPTER

# 6 Other National Enforcement Results

## 6.1 INTRODUCTION

Apart from the enforcement actions that were carried out as part of the subprojects on 'leakages' and 'illegal trade', a number of national enforcement actions have been carried out on both issues as regular activities. The results and conclusions from these national activities are presented below per country.

## 6.2 ADDITIONAL RESULTS ON LEAKAGES

### **Netherlands**

#### Transport control

A (regular, yearly) transport control was carried out by the Inspectorate for the Environment in close cooperation with Police Departments, Custom Authorities and the National Traffic Inspection Authority ('*Rijksverkeersinspectie, RVI*'). The control focussed on a number of regulations, such as EU Regulation 259/93 on transboundary shipments of waste and the Dangerous Substances Act ('*Wet milieugevaarlijke stoffen, Wms*'). The control of CFC regulations was an issue within the control of the last-mentioned law.

3575 transports were checked; 218 of these transports were relevant for control on ODS regulations. It turned out that from these 218 transports, 24 (11%) transports did not meet the requirements of the relevant CFC legislation. Most offences concerned insufficient preventive maintenance and insufficient control of leakages at cooling installations.

#### Control of vessels

A project is currently carried out in The Netherlands on leakages of (H)CFC's of cooling installations at vessels. Based on the first results, it seems that large leakages (of more than 50% per year, which were already detected earlier) still occur. An investigation on possible measures for leakage prevention will be rounded off in 2002. Also the leakage rates of cooling installations of vessels will be investigated again.

#### **Coolants in sea going vessels**

##### *Results investigation*

The total leakage for the Dutch fleet is 36%. This means that with a total of 700.000 kg (<1% CFK's, 93% HCFK and 6% HFK) leakage of around 250.000 kg coolant per year. The table below summarises the results per category.

Ship	Leakage (%)	Total amount Coolant (kg)	CFC	HCFC	HFC	Leakage (kg)
Trawlers	40%	340.000		50%		136.000
Cutters	29%	20.000		98%	2%	6.000
Reefer ships	35%	125.000		100%		44.000
Passenger ships	28%	80.000		30%	70%	22.000
General Cargo	37%	250.000	3%	87%	10%	92.000

**Conclusions**

- The main causes for leakages are (1) no detection of leakages, (2) maintenance, (3) used equipment (mainly older equipment) and enforcement.
- To reduce leakages a system of detection and maintenance should be introduced. As a result the equipment will be modernised.
- Further reduction might be achieved by providing information to the ships maintenance crew, explanation of the regulations and enforcement.

**Recommendations**

To achieve a higher level of enforcement, clear agreements on maximal (%) leakages should be discussed with the sector and adjust with international legislation and enforcement stakeholders is necessary.

## Denmark

### Inspections of refrigeration installations

The Danish Chemical Inspections Service is not the authority which supervises this area but the Danish Trade organisation KMO (Kølebranchens Miljøordning – Refrigeration Installers Environmental Protection Organisation) has carried out a survey of refrigeration installations serviced by their members. More than 90% of the companies that work with refrigeration installations are members of KMO. All member companies must report to KMO how much coolant they buy, what type of coolant, how much they sell/deliver and to whom. An Inspection Logbook must be kept at each installation registering every time coolant is added to the installation, the amount and type of coolant that is filled, refilled and recovered.

No written report of the survey has been published but we can conclude that KMO visited 63 shops and collected data from reports received and Inspection Logbooks from 227 installations, covering the years 1998 - 2000. The leakage from the different installations varies between 1% and 77%. The majority of the installations had a leakage percentage of under 20% and the average was 10 – 17% depending on whether it was a first time filling, a conversion from one coolant to another or leakages. If the above three factors are taken into consideration it can be concluded that the estimated leakage percentage for the installations surveyed is approximately 10%. KMO receives approximately 26000 reports annually concerning fillings or recovery from refrigeration installations where the filling/recovery is exceeding 1 kg.

## 6.3

### ADDITIONAL RESULTS ON ILLEGAL TRADE

#### Greece

Greece performed a desk study, focusing on checking the production and import of 1,1-Dichloro-1-fluoroethane (HCFC 141b, K 141B). Two companies were contacted; from the answers on the questions asked, no violations could be detected.

A qualitative and quantitative analysis of an R22 supply was performed for the Greek Navy. The product was found to have a 99,5% content of R22; its intended use was solely for military purposes as cooling agent for submarines. Instructions were given to the Customs Authorities as well as to the regional departments of the Greek Chemical State Laboratory (GCSL), to check imports for third countries (e.g. Bulgaria) and refillable containers of cooling agents placed on the market, focussing on the determination of the cooling agent (R22 or not).

The main results found by Greece during their study within illegal trade were:

- R12 (commonly used refrigerant, totally banned in the EU), is imported mainly from Eastern European countries (in disposable containers) and China (in bulk). It is brought on the market by European enterprises, mostly by lorries (disposable packages of 13,6 kilogram), and by ship;
- R22 (commonly used refrigerant, permitted by the Regulation for limited use purposes) is found on the market in banned disposable containers. It is transferred from Europe mainly, but also from third countries.

#### Netherlands

A number of issues has been identified by Dutch inspectors in controlling producers, importers and traders of CFC's with regard to possible illegal trade. Some points of attention were:

- At one company it was necessary to use the information from the "bill to consumer" with the sales administration. These are the addresses where the invoices are sent to; only these names of these companies are mentioned in the EU and national granted licenses. The delivery address is included in the sales administration 'ship to consumer'; these companies are not always mentioned in the granted licenses;
- In inspecting a company, it is essential to have a complete overview of *all* granted licenses (o.k. essential use and basic domestic needs). This information has to be asked for at the European Commission and/or the national focal point;
- The EU report of the company contains only an overview of controlled substances as included in Annex 1 of EU Regulation 2037/2000. Trade products (trade names) often occur in company administrations. This means that a conversion has to be made to controlled substances, based on its composition;
- The Dutch Inspectorate for the Environment considers to carry out a number of inspections in close cooperation with federal accountants. This because of the complexity of the investigation. Also it is being considered to carry out a part of the research in close communication and cooperation with the Customs Authorities, because of their knowledge and experience about import and export in its relationship with specific customs regulations.

## 6.4

### ADDITIONAL INFORMATION ON CHECKING ODS LEGISLATION

During the Operational Phase, additional information was asked from the countries in order to exchange national experiences and to improve the quality of the inspections.

#### Cooperation with Customs Authorities

In only a few countries cooperation has been established (especially with regard to the subproject on illegal trade) between environmental inspectorates and Customs Authorities (France, Greece, The Netherlands). In many countries it has been difficult to establish this cooperation but several initiatives were taken.

#### Cooperation with Customs Authorities in Nordic Countries

The Nordic countries co-operate with regard to ozone depleting substances under the auspices of the Nordic Council and it was decided to hold a seminar on illegal trade with ozone depleting substances where legislators, customs officials and other supervisory authorities participated. In addition to the participants from the different Nordic countries, representatives from the Baltic countries were present. Talks were given by Mr. Julian Newman from Environmental Investigation Agency and Ms. Ingrid Kökeritz from Stockholm Environment Institute on illegal trade in ODS. Afterwards the different countries shared their experiences

In Denmark co-operation with Customs and Excise has been increased and it has been agreed that a Guide for Customs Officials will be set up during 2002. Customs and Excise officials have already become more aware of the regulations and have stopped several container loads of used fridges containing CFC gasses, which bound for export to developing countries.

#### Cooperation with other national (enforcement) authorities

In most countries there is some cooperation with other authorities in inspecting companies within 'leakages' and/or illegal trade. In the inspections of mobile cooling installations cooperation is mostly established with police, customs and shipping inspectorates (The Netherlands, Norway).

#### Selection of companies for inspection

Most companies for inspection are selected 'at random', but there was emphasis on:

- Companies with permits for accompanying activities, e.g. such as companies with a permit for refrigeration installations that fall under nationally implemented regulations with regard to the IPPC directive;
- Companies with an exemption until 31-12- 2000 for selling equipment refilled with R22;
- Local experiences, such as with companies with a expected low lever of compliance.

#### Methods, equipment or calculations used in determining the amount of leakages

In determining the amount of leakages of cooling installations a number of methods and equipments are being used, mostly in combination:

- Invoices and Logbooks;
- Information from service companies and verbal information;
- Documents, which are obliged by national legislation (leakages control forms, intervention forms).

Electronic instruments are not often used for the detection of leakages. Belgium has experience with in situ measurements of ODS emissions.

### **Criteria to evaluate the maintenance situation**

There is no general or uniform standard used by inspectors of various countries to conclude if sufficient preventive maintenance of cooling installations is being carried out. In some countries this is defined in more detail by additional national legislation (France, The Netherlands): companies have to be authorised and have to meet certain criteria to inspect and maintain cooling installations. The sufficiency of the maintenance is being checked in these situations by checking registration forms, service contracts, logbooks, etc., that have to be administrated by the owner and/or the service company of the installation.

In other countries, the maintenance situation is evaluated by taking into consideration the number of accidents, the amount and number of refills, the general (technical) impression of the installation (e.g. the amount of corrosion), and the numbers and intervals of the services provided.

### **Criteria to evaluate the technical condition of the installation**

A number of criteria are used to evaluate the technical condition of the installations. In addition to the criteria mentioned above, optical checks, the age and general impression of the installation and the total site were mentioned as criteria to evaluate the technical condition of cooling installations.

### **Checking safe removal of ODS**

In order to control safe removal of ODS the following checks are made:

- Checking the disposal by invoices;
- Control of certificates;
- Verbal information of service personnel.

In a number of cases and in certain countries this has been very difficult to check, because the owner of an installation often does not know what service companies have been done with the disposed CFC's.

### **Eventual problems with follow up actions**

Some countries defined enforcement problems with regard to follow up actions based on the results of the company inspections. Some problems are mentioned below:

- The responsibility between owners of cooling installations and service companies is not always clearly defined in cases where additional national legislation is formulated on this issue. This could be a problem in identifying the actual offender;
- Many inspectors have still problems in enforcement of this kind of legislation, due to (amongst other things) lack of knowledge and experiences.

# CHAPTER 7

## Conclusions and recommendations

### 7.1 INTRODUCTION

This chapter is an overview of the conclusions and recommendations of the EurOzone project. These conclusions and recommendations are based on two aspects: (1) The results of the inspections as presented in the previous chapters which were received until the end of 2002 and (2) the working group sessions and discussions during the 3<sup>rd</sup> EurOzone Conference in Copenhagen in September 2002.

Since the statistics of the inspection results were not available per country, only average figures for all participating countries could be presented in this report.

### 7.2 CONCLUSIONS

#### 7.2.1 GENERAL RESULTS IN RELATION TO THE PROJECT AIMS

At the first EurOzone Conference (Athens, May 2000), a number of project aims were formulated (see also paragraph 1.3). With reference to these initial aims, the following conclusions can be drawn.

A European network for the enforcement of EU Regulation 2037/2000 (and before it came into force: EU Regulation 3039/94) has been set up. Communication and co-operation between almost all European Member States and Norway has been established. A start has been made in setting up coordination and cooperation with Customs Authorities for the import, transit and export of ozone depleting substances. Nevertheless, cooperation with Custom Authorities remains a problem in some countries. National networks have been built between policy makers and enforcers, in order to promote further improvement of the enforceability of relevant legislation.

A large number of companies was inspected (see next paragraph) on their compliance with:

- Regulations on leakages from cooling installations and safe removal of all ozone depleting substances and destruction of CFC's, and
- Regulations with regard to illegal trade of ozone depleting substances.

Insight has been gained into the compliance of companies with regard to these issues of EU Regulation 2037/2000. Companies have been informed about the specific obligations of the Regulation that came into force on October 1<sup>st</sup>, 2000.

The effectiveness and efficiency of enforcement of EU Regulation 2037/2000 is being improved by exchanging national experiences and enforcement results of this project within the EurOzone network. Information has been exchanged on the following topics:

- National (additional) regulations on aspects of implementation, definitions of leakages, sufficient preventive maintenance, sanction possibilities and general enforcement issues;
- Enforcement results of the two operational subprojects within EurOzone (company inspections, follow up actions, etc).

Generally speaking the EurOzone project has stimulated European and national enforcement activities, which could not have been achieved without such a project.

## 7.2.2

### ENFORCEMENT OF LEGISLATION AND TRACKING DOWN VIOLATIONS

Provisions of EU Regulation 2037/2000 have been enforced and violations have been tracked down and investigated. More particularly, inspections focused on the control of leakages from cooling installations and controlling the requirements with regard to illegal trade of ozone depleting substances. A complete overview of the enforcement results is presented in chapter 4 and 5; a summary of the results is presented below.

#### Enforcement results subproject 'Leakages'

Inspections concerning leakages have been carried out by **Austria**, Belgium, Finland, France, Germany, The Netherlands and Norway.

A total of 535 companies with 2815 cooling installations were inspected. In addition, 95 mobile cooling installations were inspected. Almost all inspections were carried out in 2001.

The findings for the total number of 535 company visits can be summarised as follows:

- 61% were selected for inspection 'at random';
- 31% of the inspections were announced;
- In 50% the quality of the company administration on ODS was found to be sufficient, in 23% it could be better, and in 3% it was qualified as 'poor'. 24% of the inspections did not report or the results of the inspections were not conclusive;
- 45% of the companies were familiar with the requirements of the Regulation. In 39% the knowledge was qualified as 'poor', and in 6% there was no relevant knowledge found at all. In 10% of the cases this could not be reported, or the situation was not clear.

With respect to the total number of 2815 inspected cooling installations, the following general conclusions can be drawn:

- Almost all installations were in operational use;
- In 67% the technical condition of the installation was found to be in good condition ; in 13% it could be better, and in 4% it was qualified as poor. In 16% of the cases the technical condition could not be identified or reported;
- Inspected cooling installations contain mostly R11 (1%), R22 (55%), R12 (11%) and R502 (6%);
- Leakages above the defined limit (10% per year for stationary installations, and 30% per year for mobile installations) were detected at 20% of all inspected installations.
- No leakages or leakages below the defined limit value were reported at 72% of the installations, and in 8% leakages could not be identified and/or reported.
- It should be noted that there are no cooling installations without coolant losses; even if no leakages can be detected or can be measured, cooling gasses can disappear;

- In 60% of the installations, the preventive maintenance was found to be sufficient, in 20% it was defined as 'could be better', and in 15% it was defined as 'poor'. In 5% of all inspections this question could not be answered and reported;
- Safe removal of regulated CFC's could be guaranteed at 1323 (47%) of all installations. In 8% the removal was not in compliance with the Regulation, and in 1267 cases (almost 45%) it could not be reported.

Authorities carried out a number of follow up actions. These follow up actions depend on national legislation (see chapter 4).

#### **Enforcement results subproject 'illegal trade'**

Only a few statements about the inspections can be given, because the number of reported inspections with regard to illegal trade is was lower than expected. Reports on inspections on illegal trade were only reported by Denmark, France and The Netherlands:

- At 5 of the 10 companies inspected the administration was found to be sufficient, and in 4 companies it could be better. In one case it was not reported;
- 8 out of 10 companies were familiar with the obligations of the Regulation, at one company the knowledge was 'poor', and one company was not familiar with the regulations;
- No violations of inspected companies with regard to the control of licenses could be detected in The Netherlands. One of the inspected companies in France was not in compliance: it concerned an illegal import of HCFC (141b) from China.

### 7.2.3

#### ENFORCEABILITY OF THE REGULATION

A number of issues was identified as being more or less problematic in the enforcement of Regulation 2037/2000.

#### **Clarification of the definition of leakage and how to detect the amount of leakages**

A clear definition of 'leakage' is missing in the Regulation (article 17). For the EurOzone project, a leakage rate of 10% per year was defined for stationary cooling installations, and 30% per year for mobile cooling installations and cooling installations on sea-going ships. These leakage rates are based on experiences from a number of Member States. A legal base for these assumptions does not exist in the Regulation, nor in national legislation.

A limit should therefore be included in the Regulation; a value of 10% for stationary and 30% for mobile cooling installations should be a minimum limit value. The obligation to keep a logbook and/or an efficient documentation of the history of the installation is of great importance for identifying the leakage rate.

It is not clear whether leakages caused by accidents are included by the Regulation. In the inspection report forms for the subproject 'leakages' it was reported if leakages caused by accidents form a significant part of the detected leakages.

#### **Requirements for 'sufficient preventive maintenance'**

All precautionary measures practicable have to be taken to prevent and minimise leakages of controlled substances (article 17), in particular for stationary equipment with a refrigerating fluid charge of more than 3 kilogram; these installations should be checked on an annual basis. Sufficient preventive maintenance is needed for this, in order to manage the control of leakages.

A clear and workable definition of this issue is missing.

### Other enforcement related issues that should be clarified

Some other issues were identified as being problematic from an enforcement point of view. The most important of these issues are:

- Clarification of the definition of 'naval vessels', mentioned in Annex VII of the Regulation;
- Application of Regulation 2037/2000 to naval vessels, which are not within Community territorial waters;
- Clarification if it's allowed to sell halons to ships that carry foreign flag for use in fire extinguishers on board of the ship. Is this "placing on the market" or illegal "export" from the Community?
- Clarification of what is meant by 'refilling'. Is it allowed to bring back the same CFC's into the installation after maintenance or servicing of refrigeration and air-conditioning equipment?
- Clarification of the meaning of article 16. Is it allowed to recover HCFC's for destruction, recycling or reclamation (English version of Regulation 2037/2000) or do they have to be recovered for destruction only (Dutch version)?

### Work on an 'enforcement test' of environmental legislation

For solving the above-mentioned problems, it is of paramount importance to pay attention on the enforceability of European (chemical and environmental) legislation in an early stage of policy making. Experiences 'from the field' gained during this project could improve the effectiveness of legislation.

The EurOzone Network and its participants recommend that CLEEN should have an advisory task to the European Commission and the national Competent Authorities to work on the improvement of the enforceability of chemical legislation. CLEEN should act as a stakeholder (see also the recommendations).

## 7.3

### RECOMMENDATIONS

#### Recommendations for clarification and/or improvement of EU Regulation 2037/2000

A number of recommendations can be given for improve the enforceability of the Regulation 2037/2000. The EurOzone network recommends to take the following issues into account in evaluating the Regulation with respect to article 17:

- *Clarification of the definition of leakage and how to detect the amount of leakages*  
A definition of 'leakage' is missing in the Regulation (article 17). In the framework of the EurOzone project a leakage rate of 10% per year was defined for stationary cooling installations, and 30% per year for mobile cooling installations and cooling installations on sea-going ships. These leakage rates are based on experiences from a number of Member States.
- *Obligation to keep a logbook*  
Furthermore the obligation to keep a logbook of the history of the installation is a useful tool to identify the amount of leakages. Also, it is not clear whether leakages caused by accidents are leakages meant by the Regulation.

- *Clarification of the definition of 'sufficient preventive maintenance'*  
All precautionary measures have to be taken to prevent and minimise leakages of controlled substances (article 17), in particular for stationary equipment with a refrigerating fluid charge of more than 3 kilogram.  
The Regulation should give a description of the maintenance, or set minimum requirements.
- *Naval vessels*  
The Regulation should give a clarification of the definition of 'naval vessels', mentioned in Annex VII of the Regulation.
- *Naval vessels not within the Community territorial waters*  
Should the Regulation be applied to naval vessels, which are not within Community territorial waters, too?
- *Halons and naval vessels*  
The Regulation should clarify whether selling halons to ships that carry a foreign flag for use in fire extinguishers on board of the ship is allowed. Should this be interpreted as "placing on the market" or illegal "export" from the Community?
- *Refilling*  
The Regulation should clarify the definition of 'refilling'. Is it allowed to bring back the same CFC's into the installation after servicing of refrigeration- and air-conditioning equipment?
- *Recovery of HCFC*  
Article 16 of the Regulation should clarify whether it is allowed to recover HCFC's for destruction, recycling or reclamation (English version of Regulation 2037/2000) or do they have to be recovered for destruction only (Dutch version)?

#### **Increase (technical) possibilities for detecting and measuring leakages**

In a lot of cases it has been difficult to detect, measure and calculate the leakage rate of cooling installations. It is recommended to develop protocols, technical instruments and practical 'tools' to detect leakages 'on spot'.

#### **Face the problem of stocks of CFC's**

Stocks of CFC's were found at a number of inspected companies. Because safe removal and environmental friendly destruction of these stocks is essential for environmental protection, it is of great value to face the problem of these stocks. National actions are needed to secure adequate disposal.

#### **Informing industries**

During the inspections of companies it was found that knowledge of the relevant legislation was not always sufficient. It could be of interest to inform industries on national and European scale about the obligations of relevant (European and (additional) national) legislation.

### **Further strengthening of the enforcement network**

Collaboration will be expanded with other relevant enforcement authorities, like (European and international) criminal investigation services, in order to strengthen the enforcement network within EurOzone. This also with respect to the control of regulations regarding illegal trade of ozone depleting substances, because various disciplines are needed to check the regulations on these obligations sufficiently. Support of the European Commission would be of help in establishing this cooperation.

### **Involvement of the European Commission**

DG ENV participated in the EurOzone Conferences and meetings. All national authorities welcomed the participation of DG ENV; it was found to be of very high value.

The participation of DG TAXUD would have been of great value to the project. Therefore the European Commission (DG ENTR, DG ENV, and DG TAXUD) is asked to support and to participate in EurOzone and (future) CLEEN enforcement activities. Participation of these DG's at the (annual) conferences and meetings is needed as a minimum. In doing so, participating authorities can discuss enforcement issues and enforcement related aspects (like interpretation problems) with DG representatives. On the other hand, DG representatives can be informed about the workability of European environmental legislation from an enforcement point of view. Furthermore, the different DG's (like DG TAXUD) could take national enforcement problems (like still existing problematic cooperation with customs) into account in their work.

Financial assistance for specific enforcement projects such as EurOzone and ECLPIS by the European Commission would result in a great improvement of the efficiency of the enforcement networks. Budgets could be provided for a number of activities, such as:

- Staffing the CLEEN, EurOzone and ECLIPS secretariat;
- Development of tools (brochures and leaflets on enforcement of European environmental legislation);
- Providing instruments for checking and enforcing European legislation 'on the spot', such as leakage detecting and sampling instruments;
- Assisting the execution of enforcement projects which relate to checking import, export and transit of ODS.

Finally, the enforcement results from EurOzone should be taken into account by the European Commission in setting up or adapting European environmental legislation. This also with regard to the proposed stakeholdership of CLEEN.



## Annexes



## ANNEX 1

## List of EurOzone Focal Points and project participants

**A1.1 CLEEN permanent secretariat**Greece

General Chemical State Laboratory  
 Division of Environment  
 Mrs A. Tsatsou-Dritsa  
 16, A. Tsocha Street  
 115 21 ATHENS  
 GREECE

The Netherlands

Ministry of the Environment  
 Inspectorate for the Environment  
 Mr J. Cornet  
 P.O. Box 30945 IPC 680  
 2500 GX DEN HAAG  
 THE NETHERLANDS

**A1.2 EurOzone Focal Points**Austria

Umweltbundesamt - Wien  
 Mr H. Witzani  
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 A-1090 VIENNA  
 AUSTRIA

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Ministry of the Flemish Community Environment, Natur, Land and Water Management  
 Administration  
 Environment Inspection Section  
 Mr P. Cuypers  
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 B - 1000 BRUSSELS  
 BELGIUM

Denmark

Ministry of the Environment  
 Danish Environment Protection Agency  
 Mrs B. Borglum  
 Strandgade 29  
 DK-1401 KOPENHAGEN  
 DENMARK

European Commission

Commission of the European Union  
DG XI, Environment, E.2  
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BELGIUM

Finland

Finnish Environment Institute  
Chemicals Division  
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France

Ministere de l'Aménagement du Territorire et de l'Environnement  
DPPR/SDPD/BSPC  
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Germany

Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Anmeldestelle Chemikaliengesetz  
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Division of Environment  
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ITALY

The Netherlands

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Inspectorate for the Environment  
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NORWAY

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Inspeccao Geral do Ambiente  
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PORTUGAL

Spain (observer)

Ministerio de Sanidad y Consumo  
Dirección General de Salud Pública y Consumo  
Subdirección General de Sanidad Ambiental y Salud Laboral (SGSAySL)  
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SPAIN

Sweden

National Chemicals Inspectorate  
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SWEDEN

Switzerland

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Section of Environmentally Hazardous Products  
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SWITZERLAND

United Kingdom

Department for Environment, Food and Rural Affairs  
 Mrs M. Nolan  
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 UNITED KINGDOM

**A1.3 (Other) Project and conference participants**Austria

Umweltbundesamt - Wien  
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 A-1090 VIENNA  
 AUSTRIA

Amt der Kärnter Landesregierung  
 Abt. 15 - Umweltschutz und Technik  
 Unterabteilung Umweltchemie  
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AUSTRIABelgium

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 CZECH REPUBLIC

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European Commission

European Commission  
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European Commission  
DG ENTR. E.3 AN 88 4/55  
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Impel

Impel BU-5  
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Italy

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FINLAND

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FINLAND

Germany

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Directorate of Customs

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NORWAY

## Norwegian Pollution Control Authority

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## Ministerio de Sanidad y Consumo

Dirección General de Salud Pública y Consumo  
Subdirección General de Sanidad Ambiental y Salud Laboral (SGSAySL)  
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28071 - MADRID  
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## Consejería de Salud

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Mrs María Tarancón Estrada  
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41020 - SEVILLA  
SPAIN

## Generalitat Valenciana

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Dirección General para la Salud Pública  
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Sweden

Swedish Environment Protection Agency  
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SWEDEN

## Stockholm Environment Institute (S.E.I.)

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 Customs Divisions (Policy Group)  
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United States of America

U.S. Environmental Protection Agency  
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**A1.4 EurOzone project management & secretariat**

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ARCADIS  
 Ms Mirjam Wingelaar (until September 2001) / Mr Pieter Rozema (from September 2001)  
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ARCADIS  
 Mr Charles Nijssen  
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## ANNEX 2

## Manual subproject 'leakages' (outline)

## A3.1 Proposed working method

(PS: Annexes are not included)

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Preparation of the visit</b>		
<b>Step 1:</b> Check the competences needed of different authorities (public and criminal law)	Overview of competences and authorities.	The (number of) authorities needed depend on national legislation. Make this inventory with regard to competencies needed for inspection of stationary and mobile installations.
<b>Step 2:</b> Organize involved authorities into a team and inform them		
<b>Step 3:</b> Inform involved organizations of the inspections to be done	General publicity	Involved inspectors should get acquainted with the guidance manual, the working method and the proposed report form
<b>Step 4:</b> Selection of companies (stationary installations) or location (in case of inspection of mobile installations)	List of company (=names) that will be inspected and specific geographical location of installations (stationary as well as mobile installations).	The exact number of companies to be inspected depends on the human resources available for inspections in each country. Selection of companies can for example be based on the food supply chain. Candidates: <ul style="list-style-type: none"> <li>• Cooling and freezing industries;</li> <li>• Chemical industries;</li> <li>• Food, catering and luxury industries;</li> <li>• Supermarkets;</li> <li>• Fruit auctions;</li> <li>• Office buildings;</li> <li>• Hotels, restaurants, cafés;</li> <li>• Agriculture / horticulture;</li> <li>• Shops;</li> <li>• Etc.</li> </ul> To favour uniformity, it is proposed to select companies from 'food, catering and luxury industries' e.g. coffee, tea, spice, dairy industries, slaughterhouses etcetera.
<b>Step 5:</b> Decide whether a company visit should be announced and act accordingly	Sending eventually an announcement letter	An announcement letter could be sent to the company inspected, for example, to ensure that all necessary information can be provided during the visit.

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Inspection of the company or mobile installation</b>		
<p><b>Step 6:</b> Get an impression of the company site, and collect information on:</p> <ul style="list-style-type: none"> <li>• Number of installations;</li> <li>• Kind of installations.</li> </ul> <p>(n.a. for inspection of mobile installations)</p>	<p>Overview of:</p> <ul style="list-style-type: none"> <li>• Number of installations;</li> <li>• Kind of installations;</li> <li>• Lifetime of installations;</li> <li>• Refrigerant content of installations;</li> <li>• Kind of refrigerants used.</li> </ul>	<p>Consult eventually the technical service of the company to obtain answers</p>
<p><b>Step 7:</b> Select installations (n.a. for inspection of mobile installations)</p>	<p>Selection of installations to be inspected.</p>	<p>Conditions for the selection of the installations:</p> <ul style="list-style-type: none"> <li>• Content: more than 3 kilogram of refrigerant per installation;</li> <li>• Kind of refrigerant: see Annex 1;</li> <li>• Lifetime: over 24 months in use.</li> <li>• Consult the technical service of the company if necessary, to answer above mentioned questions.</li> </ul>
<p><b>Step 8:</b> Inspect the selected installations</p>	<p>Physical inspection of the cooling installation</p>	<p>Pertinent questions:</p> <ul style="list-style-type: none"> <li>• Who carries out (preventative) maintenance of the installation?</li> <li>• How often (preventative) maintenance takes place?</li> <li>• Has the installation been replenished;</li> <li>• Did leakages occur? When, how much and why?</li> <li>• Has refrigerant been removed/replaced? If so, has this been done acceptably (=environmentally friendly with respect to all legal prescriptions)?</li> <li>• Has refrigerant been destructed after it had been removed from the installation? If so, how much and how? If not, what was the fate of the refrigerant?</li> <li>• When applicable to your country, make use of the (available) logbook in case of mobile and stationary cooling installations.</li> </ul> <p>Try to use the logbook (if there is one available) or consult the local service technician.</p>

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<p><b>Step 9:</b> Cross-check so far obtained information (n.a. for inspection of mobile installations)</p>	<p>Check if gained information on step 8 is correct, by checking the company administration.</p>	<p>Investigate invoices, receipts and other sources to get an overview of:</p> <ul style="list-style-type: none"> <li>• Owner/user;</li> <li>• Constructor/installation engineers;</li> <li>• Frequency and type of maintenance;</li> <li>• Costs of (preventive) maintenance;</li> <li>• Refrigerant supplier;</li> <li>• Etc.</li> </ul>
<p><b>Step 10:</b> Determine leakage rate</p>	<p>Is leakage above the maximum limit (see also paragraph 3.1; 10% for stationary installations and 30% for sea ships and mobile installations)?</p> <p>If so → proceed to step 11 If not → proceed to step 12</p>	<p>A maximum leakage standard has to be defined in order to make a uniform analysis of all the company visits carried out in the different countries. It is recommended to handle a maximum limit of 10% leakage of the total volume in one year of stationary installations and 30% for sea ships and mobile installations.</p>
<p><b>Step 11:</b> Did the company commit an infraction of the law (=with regard to excessive leakages from cooling installations)?</p>	<p>If so → sanction; If not → proceed to step 12</p>	<p>A company could be sanctioned if it does not assure enough preventive maintenance. It is proposed to sanction a company when two or more accidents have taken place in one year. Sanctions for violating the provisions of the Regulation depend on national legislation.</p>
<p><b>Step 12:</b> Determine if (preventive) maintenance is sufficient and if qualified technicians provide for this maintenance (according to article 16,5 and 17,1 of EC-Regulation 2037/2000)</p>	<p>If (preventive) maintenance is insufficient and/or provided by insufficiently trained service technicians, it is proposed to sanction the responsible person</p>	<p>If service technicians are insufficiently trained, follow-up. Sanctions for violating the provisions of the EC-Regulation 2037/2000 depend on national legislation.</p>
<p><b>Step 13:</b> Check whether the installation is filled with regulated CFC's as mentioned in article 16, sub 1 (EC-Regulation 2037/2000)</p>	<p>If the refrigerant is composed of one of these regulated CFC's and removal is compulsory, sanction to guarantee safe removal and eventual destruction</p>	<p>If cooling installations are filled with regulated CFC's (Article 16,1), these CFC's should preferably be removed, safely (environmentally friendly and legally), and finally destroyed. It is recommended to track regulated CFC's stored as reserve also. The same as for refrigerant in use applies to these quantities: they should preferably be removed, safely (environmentally friendly and legally) and finally destroyed.</p>
<p><b>Step 14:</b> Inspect another selected installation</p>	<p>Next inspection of a cooling installation</p>	<p>See steps 8 – 13.</p>

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Step 15:</b> Check removal and (eventual destruction) of illegal refrigerant	Sanction to guarantee on safe removal (and destruction)	Is removal in accordance with relevant legislation?
<b>Step 16:</b> Terminate company visit	Brief the company on follow up actions	Inform the company of: <ul style="list-style-type: none"> <li>• Preliminary general outcome of the inspection;</li> <li>• Sanctions if violations have been encountered;</li> <li>• Consequences.</li> </ul> Formulate suggestions on: <ul style="list-style-type: none"> <li>• Measures to prevent future offences;</li> <li>• Replacement/safe removal of ODS</li> </ul>
<b>Follow up and after care</b>		
<b>Step 17:</b> Ask the company for additional information (if necessary)	Additional information	Additional information can be gained after the inspection, if the information was not available at that time
<b>Step 18:</b> Check additional information	Checking of additional information	Crosscheck with the information gained during the visit. A new inspection visit at the company can prove to be necessary.
<b>Step 19:</b> Sanction in case of violations		Send a letter of confirmation after the inspection with the results of the company visit and the charge/official report according to public and/or criminal law
<b>Step 20:</b> Report the conclusions to EurOzone project secretariat using standard inspection report form (see page 12)	Inspection report form (1 per inspected company)	Fill in the report form and send it to the national focal point; this person transmits it to the EurOzone project secretariat

### A3.2 Inspection report form

INSPECTION REPORT FORM "leakages and safe removal of ODS" (One inspection report form per company visit)	
Date: .....	
Reference number: .....	
<b>Section 1: General information</b>	
1.1 Country name:	
1.2 Name inspectorate:	
1.3 Contact person:	
1.4 Fax:	
1.5 E-mail:	
1.6 Company name or your national reference number (in case of confidentiality):	
1.7 How is the company selected?	
<input type="checkbox"/> at random	
<input type="checkbox"/> company with reputation	
1.8 Date of the visit:	
1.9 Brief description: <sup>1</sup>	
<b>Section 2: general information about the inspection</b>	
2.1: Cooling installation inspected (only one answer possible):	
<input type="checkbox"/> mobile installation:	
<input type="checkbox"/> ship	
<input type="checkbox"/> lorry	
<input type="checkbox"/> train	
<input type="checkbox"/> other, namely:	
<input type="checkbox"/> stationary installation, in the following line of business (only one answer possible):	
<input type="checkbox"/> Cooling and freezing industries;	
<input type="checkbox"/> Chemical industries;	
<input type="checkbox"/> Catering industries;	
<input type="checkbox"/> Supermarkets;	
<input type="checkbox"/> Fruit auctions;	
<input type="checkbox"/> Office buildings;	
<input type="checkbox"/> Hotels, restaurants, cafés;	
<input type="checkbox"/> Agriculture / horticulture;	
<input type="checkbox"/> Shops;	
<input type="checkbox"/> Other, namely:	
2.2 Was the inspection announced? Yes/no	
<b>Section 3: inspection of the cooling installation</b>	
3.1 Is/are cooling installation(s) operational?	
<input type="checkbox"/> yes	
<input type="checkbox"/> no	

<sup>1</sup> Some companies operate very many cooling installations of differing sizes. To get a better overall picture, it could be proposed to briefly mention how many cooling installations using ODS as refrigerant are operational at the site, what is the total maximum electric power consumption of all installations using ODS as refrigerant, what is the total mass of all ODS used as refrigerants.

<b>INSPECTION REPORT FORM "leakages and safe removal of ODS"</b> <b>(One inspection report form per company visit)</b>	
	Date: .....
	Reference number: .....
3.2: General impression of the technical condition of the installation(s):	
<input type="checkbox"/> good	
<input type="checkbox"/> could be better	
<input type="checkbox"/> poor	
3.3: Number of cooling installations inspected:	
3.4: Sort(s) of refrigerants used (see Annex 1):	
<input type="checkbox"/> R11	
<input type="checkbox"/> R12	
<input type="checkbox"/> R502	
<input type="checkbox"/> R22	
<input type="checkbox"/> Other, namely:	
3.5: Is refrigerant being used illegally?	
<input type="checkbox"/> Yes, namely:	
(sort): .....	
quantity: ..... kg	
<input type="checkbox"/> No	
3.6: Have leakages been detected:	
<input type="checkbox"/> Yes, an average of ....% per year per cooling installation	
<input type="checkbox"/> No	
3.7: Did the company cause leakages (negligence, non-professional maintenance, ....)?	
<input type="checkbox"/> Yes, because of:.....	
<input type="checkbox"/> No	
3.8: Has the company provided for sufficient preventive maintenance (frequency, profoundness, ....)?	
<input type="checkbox"/> yes	
<input type="checkbox"/> could be better	
<input type="checkbox"/> no	
3.9: Have regulated CFC's used in the installation been removed safely (according to article 16,1 of the EC-Regulation 2037/2000)?	
<input type="checkbox"/> yes	
<input type="checkbox"/> no	
3.10: What is the general impression of the company administration on ODS?	
<input type="checkbox"/> sufficient	
<input type="checkbox"/> could be better	
<input type="checkbox"/> poor	
3.11: Is the company familiar with all pertinent ODS regulations?	
<input type="checkbox"/> yes	
<input type="checkbox"/> poor	
<input type="checkbox"/> no	

<b>INSPECTION REPORT FORM "leakages and safe removal of ODS"</b> (One inspection report form per company visit)	
Date: .....	
Reference number: .....	
<b>Section 4: after care and follow up actions</b>	
4.1: Has additional information been asked to the company after the visit? <input type="checkbox"/> yes <input type="checkbox"/> no	
4.2: Have irregularities been detected? <input type="checkbox"/> yes <input type="checkbox"/> leakage above limit <input type="checkbox"/> no sufficient preventive care, preventive care done by insufficiently trained personnel <input type="checkbox"/> no safe removal and destruction of ODS <input type="checkbox"/> others, namely: ..... <input type="checkbox"/> no	
4.3: Have sanctions been given? <input type="checkbox"/> yes, namely: <input type="checkbox"/> warning letter <input type="checkbox"/> administrative sanction/legal report/penalty <input type="checkbox"/> no	
<b>Section 5: Concluding remarks</b>	
(eventually additional remarks)	
<b>Section 6: Reporting</b>	
Please send this report form (according to the timetable) to: EurOzone project secretariat ARCADIS, Attn. Ms Angela van Heeswijk P.O. box 264 NL 6800 AG ARNHEM The Netherlands Fax: +31-26-4457549 E-mail: <a href="mailto:a.a.a.j.w.heeswijk@arcadis.nl">a.a.a.j.w.heeswijk@arcadis.nl</a>	



## ANNEX 3

## Manual subproject 'illegal trade' (outline)

## A4.1 Proposed working method

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Preparation of the visit</b>		
<b>Step 1:</b> Check the competences needed of different authorities (public and criminal law)	Overview of competences and authorities.	Find out which authority is responsible for the licenses in your own country. The (number of) authorities needed depend on national legislation
<b>Step 2:</b> Organize involved authorities into a team and train them, namely customs		Make sure the EU manual and UNEP manual are available at customs
<b>Step 3:</b> Inform involved organizations of the inspections to be done	General publicity	Involved inspectors should get acquainted with the guidance manual, the working method and the proposed report form
<b>Step 4:</b> Selection of companies:	<ul style="list-style-type: none"> <li>List of company (=names) that will be inspected;</li> <li>Broad information on importation, exportation and/or transit of substances;</li> </ul>	<p>The exact number of companies to be inspected depends on the human resources available for inspections in each country. In the framework of the EurOzone subproject it is proposed to inspect:</p> <ul style="list-style-type: none"> <li>One licensed company (ask license at Competent Authority in own country);</li> <li>One company with refused license (ask refused license at contact person European Commission);</li> <li>One other company, selected from custom/government/network tips or the chain approach.</li> </ul>
<b>Step 5:</b> Inform other countries about output of step 4 in case of: 1. Transit to a Member State; 2. Export to Third Countries.	Exchanging of information via EurOzone country coordinators and CLEEN Focal Points	<ul style="list-style-type: none"> <li>Inform Member State where actual import will take place;</li> <li>Ask the involved customs to follow the transport within Europe (see Annex 3 with list of Focal Points)</li> </ul>
<b>Step 6:</b> Communicate the schedules of the inspections to the European Commission and the EurOzone country coordinators/CLEEN Focal Points		See also Regulation 2037/2000, article 20, sub 3 (this article is included in Annex 2 of this manual)

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Step 7:</b> Announce regular company visits, visits to suspicious companies (as a result of tips) should not be announced	Sending eventually an announcement letter	An announcement letter could be sent to the company inspected, for example, to ensure that all necessary information can be provided during the visit.
<b>Step 8:</b> Prepare yourself for the visit		Take with you to the visit: <ul style="list-style-type: none"> <li>• (refused) licence;</li> <li>• Quota;</li> <li>• Required forms.</li> </ul>
<b>Inspection of the company</b>		
<b>Step 9:</b> Get a general impression of the company:	Overview of information on: <ul style="list-style-type: none"> <li>• Kind of company (supplier, agency, producer, user, transporter, trader);</li> <li>• Activities (production/importation/exportation/placing on the market);</li> <li>• Accountancy.</li> </ul>	Record information in Inspection report form (page 13)
<b>Step 10:</b> Audit the company administration (computerized system, invoices, receipts and other sources) in order to: <ul style="list-style-type: none"> <li>• Monitor compliance of the license on import/export;</li> <li>• Detect illegal substance in case of refused license;</li> <li>• Detect illegal production in case of production license.</li> </ul>	Points of attention: <ul style="list-style-type: none"> <li>• Chemical/trade name of substance;</li> <li>• Production/importation/exportation/placing on the market/use;</li> <li>• Quantity and time period;</li> <li>• Country (and company) of origin of imported substance;</li> </ul>	Record information in Inspection report form (page 13)
<b>Step 11:</b> Cross-check "on stock"	Check whether the labels of stored substances/products/equipment are consistent with administration.	<ul style="list-style-type: none"> <li>• Be alert for label fraud (see UNEP manual: chapter 4 on illegal trade);</li> <li>• Record information in Inspection report form (page 13).</li> </ul>
<b>Step 12:</b> Conduct random samples in case of suspiciousness		Taking samples is only recommended in case of reasonable doubt and in Member States who have portable sample equipment at one's disposal.
<b>Step 13:</b> Did the company commit an infraction of the law with regard to: <ul style="list-style-type: none"> <li>• Compliance of the license;</li> <li>• Presence of illegal substance in case of refused license;</li> <li>• Label fraud.</li> </ul>	If so → sanction; If not → proceed to step 13	Sanctions depend on national legislation

<i>Step in the manual during inspection</i>	<i>Proposed output</i>	<i>Comment</i>
<b>Step 14:</b> Terminate company visit	Brief the company on follow up actions	Inform the company of: <ul style="list-style-type: none"> <li>• Preliminary general outcome of the inspection;</li> <li>• Sanctions if violations have been encountered;</li> <li>• Consequences.</li> </ul>
<b>Follow up and after care</b>		
<b>Step 15:</b> Ask the company for additional information (if necessary)	Additional information	Additional information can be gained after the inspection, if the information was not available at that time
<b>Step 16:</b> Check additional information	Checking of additional information	Cross-check with the information gained during the visit. A new inspection visit at the company can prove to be necessary.
<b>Step 17:</b> Sanction in case of violations	Administrative or legal penalty	Send a letter of confirmation after the inspection with the results of the company visit and (in case of violations) the charge/official report according to public and/or criminal law. Also send a letter in case of "desk inspection".
<b>Step 18:</b> Communicate the results/irregularities to the European Commission and to the EurOzone country coordinators/CLEEN Focal Points		Follow up by other foreign authorities, which are involved in the "chain of import", may be needed in case of violations.
<b>Step 19:</b> Report the conclusions to the EurOzone project secretariat, by using the standard inspection report form (see chapter 4)	Inspection report form (1 per inspected company)	Fill in the report form and send it to the national focal point; this person transmits it to the EurOzone project secretariat

## A4.2 Inspection report form 'illegal trade'

INSPECTION REPORT FORM "Illegal trade" (One inspection report form per company visit)	
Date: .....	
Reference number: .....	
<b>Section 1: General information</b>	
1.1 Country name:	
1.2 Name inspectorate:	
1.3 Contact person:	
1.4 Fax:	
1.5 E-mail:	
1.6 Company name or your national reference number (in case of confidentiality):	
1.7 Date of the visit:	
<b>Section 2: general information about the company visit</b>	
2.1: Selection of company visit is based on:	
<input type="checkbox"/> Custom/governments tips; <input type="checkbox"/> Network tips; <input type="checkbox"/> List of licensed companies; <input type="checkbox"/> List of not-licensed companies; <input type="checkbox"/> Chain approach; <input type="checkbox"/> Other, namely	
2.2: Are customs in other Member States informed in case of transit through Europe? Yes/no	
2.3: Is the European Commission informed about the schedule of the company visit? Yes/no	
2.4: Was the inspection announced? Yes/no	
<b>Section 3: inspection of the company</b>	
3.1: Kind of company: (more than one answer possible)	
<input type="checkbox"/> Supplier; <input type="checkbox"/> Agency; <input type="checkbox"/> Producer; <input type="checkbox"/> User; <input type="checkbox"/> Transporter; <input type="checkbox"/> Trader; <input type="checkbox"/> Other, namely:	
3.2: Activities of the company: (more than one answer possible)	
<input type="checkbox"/> Production <input type="checkbox"/> Importation; <input type="checkbox"/> Exportation; <input type="checkbox"/> Placing on the market; <input type="checkbox"/> Use; <input type="checkbox"/> Other, namely	
3.3: What is the general impression of the company administration?	
<input type="checkbox"/> sufficient <input type="checkbox"/> could be better <input type="checkbox"/> poor	

<b>INSPECTION REPORT FORM "Illegal trade"</b> <b>(One inspection report form per company visit)</b>			
Date: .....			
Reference number: .....			
3.4: In case of the control of a license: The control of the license of the inspected company is focused on:			
0 Controlled substances covered:			
0 R11;			
0 R12;			
0 R502;			
0 R22;			
0 Other, namely:			
0 New substance: bromochloromethane			
0 Other, namely			
3.5a: In case of licensed company: did the company administration comply with the license?			
0 yes			
0 no, namely:			
	In license	Company administration:	
Sort:	.....	.....	
Quantity (kg):	.....	.....	
Time period:	.....	.....	
Country/company of origin:	.....	.....	
3.5b: In case of refused license: did you find a not-licensed substance in the administration?			
0 no			
0 yes, namely:			
Sort: .....	Quantity: ... kg	Time period: .....	Country/company of origin: .....
3.6: Were the labels consistent with the company administration and relevant legislation?:			
0 yes			
0 no, namely:			
	Label:	Company administration	
Sort:	.....	.....	
Quantity (kg):	.....	.....	
Time period:	.....	.....	
Country/company of origin:	.....	.....	
3.7: Were samples conducted and how many?			
0 no			
0 yes, ..... samples			
3.8: Is the company familiar with all pertinent ODS regulations?			
0 yes			
0 poor			
0 no			
<b>Section 4: after care and follow up actions</b>			
4.1: Has additional information been asked to the company after the visit?			
0 yes			
0 no			
4.2 In case that samples have been taken: was the analyses in conformity with the administration?			
0 yes			
0 no			

<b>INSPECTION REPORT FORM "Illegal trade"</b> <b>(One inspection report form per company visit)</b>	
	Date: .....
	Reference number: .....
4.3: Have irregularities been detected ?	
0 yes	
0 non-compliance to the license	
0 presence of not-licensed substance	
0 label fraud	
0 others, namely: .....	
0 no	
4.4: Have sanctions been taken?	
0 yes, namely:	
0 warning letter	
0 administrative sanction/legal report/penalty	
0 no	
4.5: Is the European Commission informed about the outcomes of the visit and control of the license? Yes/no	
<b>Section 5: Concluding remarks</b>	
(eventually additional remarks)	
<b>Section 6: Reporting</b>	
Please send this report form (according to the timetable) to:	
EurOzone project secretariat	
ARCADIS, Attn. Ms Angela van Heeswijk	
P.O. box 264, NL 6800 AG ARNHEM The Netherlands	
Fax: +31-26-4457549, E-mail: <a href="mailto:a.a.j.w.heeswijk@arcadis.nl">a.a.j.w.heeswijk@arcadis.nl</a>	

## ANNEX 4

## List of companies with licenses for import of CFC's

The list below is an overview of companies with a licence of the European Commission for the import of HCFC's for the year 2001. This list was used to select a number of companies within the subproject on 'illegal trade'.

AB Ninolab  
P.O. Box 137  
194 22 Upplands Väsby  
Sweden

Alcobre S.A.  
C/Luis I, Nave 6-B  
28031 Madrid  
Spain

Celotex Limited  
Warwick House  
27/31 St Mary's Road  
Ealing  
London W5 5PR  
United Kingdom

Galex S.A.  
B.P. 128  
13321 Marseille Cedex 16  
France

GU Thermo Technology Ltd  
Greencool Refrigerants  
Unit 12  
Park Gate Business Centre  
Chandlers Way  
Park Gate  
Southampton SO31 1FQ  
United Kingdom

H&H International Ltd.  
Richmong Bridge House  
419 Richmond Road  
Richmond TW1 2EX  
United Kingdom

Asahi Glass Europe B.V.  
World Trade Center  
Strawinskylaan 1525  
1077 XX Amsterdam  
The Netherlands

Galco S.A.  
Avenue Carton de Wiart 79  
1090 Brussels  
Belgium

Gasco N.V.  
Assenedestraat 4  
9940 Rieme – Ertvelde  
Belgium

Guido Tazzetti & Co.  
Strada Settimo 266  
10156 Torino  
Italy

HRP Refrigerants Ltd.  
Gellihirion Industrial Estate  
Pontypridd CF37 5SX  
United Kingdom

Universal Chemistry & Technology S.p.A.  
Viale A. Filippetti 20  
20122 Milano  
Italy

Nagase Europe Ltd  
Crown House  
143 Regent Street  
London W1R 4NS  
United Kingdom

Promosol  
Bld Henri Cahn  
B.P. 27  
94363 Bry-sur-Marne Cedex  
France

Refrigerant Products Ltd.  
N9 Central Park Estate  
Westinghouse Road  
Trafford Park  
Manchester M17 1PG  
United Kingdom

Resina Chemie B.V.  
Korte Groningerweg 1A  
9607 PS Foxhol  
The Netherlands

SJB Chemical Products B.V.  
Wellerondom 11  
3231 XV Brielle  
The Netherlands

Polar Cool S.L  
C/ Valdemorillo, 8 Pol. Ind. Ventorro del Cano  
28925 Alcoron  
Spain

Synthesia Espanola s.a  
Conde Borrell, 62  
08015 Barcelona  
Spain

## ANNEX 5

## Results and action points second EurOzone Conference

(Vienna, 11 and 12 September 2001)

(PS: Annexes and sheets are not included)

Action by	Number	Minutes:
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## EurOzone Conference 11 September 2001

The programme, interim results and conclusions/recommendations were enlightened during the conference by the hand of several sheets. These are included in the Annexes.

1. **Word of welcome by the host**  
Mr Helmut Witzani, host of the conference, welcomed all participants in Vienna. Mr Witzani emphasized the usefulness of the enforcement network and invited all participants to discuss actively during the conference, in order to improve our common tasks in protecting the environment.
2. **Opening of the EurOzone Conference**  
Mr Joost Cornet, chairman, opened the EurOzone Conference and welcomed all participants. He mentioned the absence of DG TAXUD at the conference; Mr Hupperetz of DG TAXUD expressed by letter that, due to limited resources, the Taxation and Customs Union Directorate General could not participate. Nevertheless, DG TAXUD expressed its interest for possible customs involvement in the project. The chairman gave also a special word of welcome to a participant of the Czech Republic and from the Stockholm Environment Institute, who attended the conference as an observer.
3. **Introduction of participants**  
All participants introduced themselves shortly.
4. **Introduction of the conference aims and programme**  
Mr Charles Nijssen gave a short introduction on the points agreed at the first EurOzone Conference in Athens (Greece, May 2000) and the points agreed at the interim meeting in Dortmund (Germany, February 2001). He also presented briefly the programme of the EurOzone Conference. The sheets are included in Annex 1.
5. **Presentation interim results of the subprojects on 'leakages' and 'illegal trade'**
  - 5.1 The interim results of the subproject on 'illegal trade' were presented by Mr Chiel Bovenkerk. The sheets of his presentation are included in Annex 2. The presentation included some cases occurred in The Netherlands in combating illegal trade.
  - 5.2 The results of and experiences with the subproject on illegal trade in Greece were presented by Mrs Angeliki Tsatsou-Dritsa. The sheets of her presentation are included in Annex 3.

Action by	Number	Minutes:
	5.3	Finally, the interim results of the subproject on 'leakages' were presented by Mr Chiel Bovenkerk. The sheets of his presentation are included in Annex 4.
	6.	<b>Subgroup discussions on and plenary feedback of interim results 'illegal trade' and 'leakages'</b>
	6.1	After a short introduction, the interim results of the subprojects of 'illegal trade' and 'leakages' were discussed in two subgroups by those countries which participated in the subprojects. The discussions focussed on the interpretation of the interim results, problems encountered during inspections and possible solutions, and actions to be taken on short term to be able to report all inspection results before the initial deadline of 1 November 2001.
	6.2	Main issues within 'illegal trade' were: <ul style="list-style-type: none"> <li>a. Related to the actions that were agreed during 'Dortmund', the results so far were stated as 'poor'. Additional actions from participating countries in 'illegal trade' are needed to give more fundamental conclusions and recommendations;</li> <li>b. The manual of the illegal trade project and the draft UNEP customs manual do not fit well with the information needs of custom authorities on this item; Additional information and tools for customs are needed to tackle illegal trade more sufficiently (e.g. like ADR numbers, the EC customs manual, etc.);</li> <li>c. There is no monitoring system to check whether transit of CFC's through EU Member States is in conformity with the Regulation;</li> <li>d. The use of the ADR convention (with a code list of dangerous goods) could be very useful for customs to tackle the issue of illegal trade. A 'connection' between the ADR convention nomenclature and the nomenclature of the harmonised custom system could be of use;</li> <li>e. The Regulation 2037/2000 which also deals with export of ODS equipment is not always clear.</li> </ul>
	6.3	The following agreements were made on the existing subproject on 'illegal trade':
All	a.	Participating countries will perform the inspections of companies on illegal trade as agreed during the Dortmund interim meeting (3 inspections: 1 'licensed' company, 1 company with refused license (only if such a company can be identified) and 1 other company). The ultimate deadline for sending in all report forms to the project secretariat is postponed with one month to ultimately 1 December 2001;
Callaghan	b.	The European Commission will send the confidential information on import licences of 2001 (allocated amounts per importer) to the national experts before 1 November 2001. The national experts can decide whether to release this information to those involved in the project.
All	c.	All countries were asked to pay special attention to fill in all report forms on all items sufficiently, to enable the project secretariat to make adequate analyses of all results. Differences with already reported results will be clearly indicated in the report forms. Also some new actions were identified within illegal trade as ongoing actions for 2002; these are presented in point 10.3 of this report.
	6.4	Main issues within 'leakages' were: <ul style="list-style-type: none"> <li>– The definition of leakage rate and how to determine this rate;</li> <li>– The definition of 'sufficient preventive maintenance';</li> <li>– The differences and legal actions taken from leakages caused by 'background leakages' and 'accidents', its relationship with trespassing the requirements of the Regulation and the way of reporting the differences in the leakages report form.</li> </ul>
	6.5	Concerning the 'leakages' project, the following agreements were made.

Action by	Number	Minutes:
Borglum, Deriviere, Olsson, Bovenkerk		<p>a. The definition of 'leakage rates', the determination of this rate and the definition of 'sufficient preventive maintenance' were already presented in the manual. Nevertheless:</p> <p>b. As in some countries - for several reasons – definitions and used methods have been sorted out; we should look at what has been done already. Therefore, an overview of the way countries define 'refill', 'accidents', and 'sufficient preventive maintenance', and how they interpret 'leakage rates' and enforce the limit values will be drafted before 15 November 2001 by Denmark, France, Sweden, and The Netherlands. The overview should also give experiences of sampling and analyses of CFC's and equipment, which is used for this. The project secretariat will send the total overview to all EurOzone Focal Points before 1 December 2001, to enable the inspectorates to improve their (EurOzone) inspections in future.</p>
All		<p>c. All countries were asked to pay special attention to fill in all report forms on all items, to enable the project secretariat to make adequate analyses of all results sufficiently. Differences with already reported results will be clearly indicated. The existing inspection report form of 'leakages' will not be adapted. If leakages caused by accidents form a significant part of the total amount of detected leakages, it will be indicated separately in the report form. The reported inspections so far will be reviewed on this point by all participating countries;</p>
All		<p>d. The deadline for sending in all report forms for 'leakages' to the project secretariat is 1 December 2001 at the latest;</p> <p>Also some new actions were identified as ongoing actions for 2002; these are summarised in point 10.4.</p>
	7.	<p><b>Summary of discussion points and conclusions</b></p> <p>The chairman gave a short summary of the conclusions of the morning session.</p> <p>Lunch</p>
	8.	<p><b>Start of the afternoon programme and enlightening of the programme</b></p> <p>The afternoon programme started with a short enlightening of the programme.</p>
	9.	<p><b>Presentation French leaflet on CFC's</b></p>
	9.1	<p>Mrs Emilie Deriviere gave a short presentation of a leaflet that has been developed by the Environmental Ministry of France. The leaflet gives an impression of relevant (European and French) legislation on CFC's and climate change. The leaflet is used for industry to inform them on relevant legislation.</p>
Deriviere	9.2	<p>France will provide the project secretariat with a number of leaflets. These leaflets will be included as an Annex to the report of the conference.</p>
	10.	<p><b>Definition of ongoing actions for EurOzone for 2002</b></p>
	10.1	<p>During a plenary introduction the way of working in defining ongoing actions was enlightened. The chairman stressed that ongoing actions within the EurOzone project for 2002 should focus on four main items:</p> <ul style="list-style-type: none"> <li>– Organisational activities;</li> <li>– Activities on technical issues;</li> <li>– Activities focussing on identifying improvements of (European) legislation;</li> <li>– Specific project activities/inspections.</li> </ul>

Action by	Number	Minutes:
		The activities focussing on identifying improvements of (European) legislation will be a particular point of attention in the final report of the EurOzone project; this can't be dealt with within the rather short time span of EurOzone actions for 2002. More time is needed to discuss and agree upon improvements; besides: the proposals have to be very specific.
	10.2	Discussions on possible ongoing actions for 2002 within the EurOzone project were discussed in the same subgroups (with the same composition) on illegal trade and leakages. The results were presented and discussed afterwards during a plenary session.
	10.3	The following agreements were made within the EurOzone project on illegal trade for ongoing actions for 2002:
Tsatsou / Bovenkerk		a. The CLEEN secretariat will, in close cooperation with the European Commission, make an appointment with the "Alliance for Responsible Atmospheric Policy" and the "European Association for Refrigerants and Air Conditioning Industry (EUCHAR)" to exchange information on the EurOzone project and possible information/tips from these associations that can be used for handling illegal trade. The (combined) meeting should be arranged before 1 December 2001. CLEEN will work on a leaflet (see also CLEEN conclusions);
Callaghan		b. The existing draft EC customs manual will be forwarded to the participating countries within illegal trade. The European Commission will send this draft as soon as possible to the project secretariat for distribution to the network;
All		c. Project participants within illegal trade will give their comments upon the draft EC customs manual one month after it has been provided, directly to the European Commission (Mr Phil Callaghan);
Callaghan		d. The final draft of the EC customs manual will be available in the beginning of 2002;
Proost / Callaghan		e. The progress of finalising the UNEP manual on illegal trade of CFC's will be monitored by the CLEEN secretariat and the European Commission. It will be sent to the EurOzone network as soon as the final version is available;
Tsatsou- Dritsa		f. Greece will send the European Commission before 28 September 2001 a short description of the way in which the ADR nomenclature could be 'connected' with the nomenclature of the harmonised custom system, in order to improve the control of illegal trade by customs. The European Commission will include this suggestion in the consideration of the future study on combating illegal trade under the Montreal Protocol;
Callaghan		
Tsatsou- Dritsa, de Lange, Bovenkerk Callaghan		g. Greece and The Netherlands will form a small expert group with ADR-specialists, customs and inspectorates in order to draft a simple set of tips that can be added to the (draft) EC customs manual as an Annex. The overview of tips will be sent to the European Commission before the end of 2001;
		h. The European Commission will report the results on the clarification of regulations concerning the export of ODS equipment to the EurOzone network before the next EurOzone Conference (September 2002);
Proost, de Lange		i. A project proposal for a pilot project on checking transit of all ODS will be drafted by the CLEEN secretariat and Dutch custom authorities. The pilot project could take one month, in which transit documents (T1) could be checked 'on spot' by inspectorates and custom officers in whole Europe. The project proposal will be submitted to the European Commission (DG TAXUD) before 15 January 2002, to be able to hear their first reaction before the next EurOzone interim meeting (February 2002).
Callaghan		j. The relevance of (the development of) the UNEP computerised system on monitoring and checking illegal shipments will be checked at UNEP-Paris (Mr Jim Curlin) by the European Commission before the end of October 2001.

Action by	Number	Minutes:
	10.4	The following agreements were made within the EurOzone project on leakages for ongoing actions for 2002:
All		a. The compiled overview of action 6.5.b. will be taken into account in drafting the EurOzone interim report. The overview will be discussed at the EurOzone interim meeting (February 2002);
All		b. All participating countries within the subproject on leakages will formulate proposals on possible improvements of the Regulation. The proposals will be sent to the EurOzone project secretariat before 1 December 2001, in order to include the results in the EurOzone interim report;
Project secretariat		c. All participating countries within leakages will inform industry within their country on the requirements of the Regulation. The already compiled brochures of France and United Kingdom will be used as base material. These texts will be put on the intranet of the CLEEN website;
All		d. All participating countries within 'leakages' will try to plan inspections of cooling installations on leakages for next year. The possibilities or bottlenecks will be evaluated at the EurOzone interim meeting (February 2002). In principle, company inspections (with a minimum of three companies per country) will be performed in April, May and June 2002. February and March 2002 will be used to prepare these company inspections in more detail, also based upon the outcomes of the EurOzone interim meeting and the experiences of inspections so far.
	<b>11.</b>	<b>Presentation EC CFC Management Strategy</b>
	11.1	Mr Phil Callaghan of DG ENV gave a short presentation on the start of the art of the development of the CFC Management Strategy. The sheets of his presentation are included in Annex 5. He highlighted the aim, timetable and further details about the project.
Callaghan	11.2	It is expected that the CFC Management Strategy will be finalised by October 2001. A copy will be circulated to the EurOzone network, once it has been submitted by the European Commission.
	<b>12.</b>	<b>End of the afternoon programme of Tuesday 11 September 2001</b>
		The afternoon programme was ended by the chairman with a summary of general conclusions and results of the day.
		<b>EurOzone Conference 12 September 2001</b>
	<b>13.</b>	<b>Opening of the morning session and enlightening of the conference programme</b>
		The morning session was opened by the chairman. The conference programme was enlightened shortly.

Action by	Number	Minutes:
	14.	<p><b>Presentation of SEI experiences in enforcement networking on illegal trade in SEA countries</b></p> <p>Mrs Annica Carlsson of the Stockholm Environment Institute (SEI) enlightened her first experiences in setting up an enforcement network on illegal trade of ODS in South East Asia. Information exchange and close cooperation between inspectorates and custom authorities is an important aim of the project. The project is funded by the Institute and carried out in close cooperation with UNEP. In May last year a first conference was organised in Thailand, focussing on monitoring and control of ODS. The estimated project duration is 2 years. The first steering group meeting will take place in Vietnam at the end of September 2001.</p>
	15.	<p><b>Subgroup discussion on the draft EurOzone interim report</b></p>
	15.1	After a general introduction, the set up and content of the draft EurOzone interim report (which was sent to participants in advance) was discussed in four subgroups.
	15.2	<p>A number of remarks and comments were given during the plenary feedback regarding the set up, content and conclusions &amp; recommendations for the interim report. These will be included in the draft version. Most important comments and additions were:</p> <ul style="list-style-type: none"> <li>– The report must be short and concise;</li> <li>– Conclusions should be 'open' and not too conclusive. This is due to the fact that more inspection results will follow and more precise recommendations will be given in the final report of EurOzone. Also regarding the fact that the results are more or less 'subjective';</li> <li>– Pay special attention to the (needed) participation of DG TAXUD;</li> <li>– Add a new paragraph within chapter 3 and 4 (that deal with the results of leakages and illegal trade), with additional information on other results of national activities regarding leakages and illegal trade;</li> <li>– Clarify the requirements of the Regulation, eventual in a separate chapter (especially the requirements of article 21);</li> </ul> <p>Add information to the interim report (Annexes) on:</p> <ul style="list-style-type: none"> <li>– The results and action points of the second EurOzone Conference;</li> <li>– A list of companies with license for production and import of CFC's;</li> <li>– Information on CFC's regarding seagoing ships; this will be provided by the European Commission.</li> </ul>
Callaghan	15.3	A brief questionnaire was developed during the conference, in which the countries participating in EurOzone gave information on the implementation and enforceability of certain issues within the Regulation, especially regarding sanctions. The questionnaire and the answers are included in Annex 6. The provided information will be used in the interpretation of the (interim) results of inspections on leakages and illegal trade.
EurOzone Focal Points	15.4	France, Germany and Norway drafted and circulated during the conference a short checklist / questionnaire with criteria of the way how inspections are performed. The EurOzone Focal Points will send the overview before 1 December 2001 to the CLEEN secretariat. These items will be included in the report, as a separate chapter. The questionnaire is included in Annex 7.
	15.5	<p>The following procedure in finalising the inspections, reporting the results to the project management and compilation of the (draft) EurOzone interim report has been agreed:</p> <ul style="list-style-type: none"> <li>– Deadline for reporting all inspection results of leakages and illegal trade to EurOzone secretariat: 1 December 2001;</li> <li>– Sending draft EurOzone interim report by EurOzone secretariat to Focal Points EurOzone: 1 January 2002;</li> </ul>

Action by	Number	Minutes:
		– Comments from EurOzone Focal Points to EurOzone secretariat: ultimately 15 January 2002;
Project secretariat	15.6	The approval of the draft EurOzone interim report will be on the agenda of the second EurOzone interim meeting (February 2002). The final EurOzone interim report will be available around March 2002.
	<b>16.</b>	<b>Plenary evaluation of the EurOzone project in general, so far</b>
	16.1	During a plenary session the EurOzone project carried out so far was evaluated.
	16.2	Generally speaking, all participants were positive about the results of the EurOzone project so far. In many countries the project has accelerated relevant cooperation in enforcement; for some countries this is found to be of more importance than the results of the inspections itself. The set up of the project was found to be adequate as well. Finally, countries mentioned the need to involve 'specialised' authorities in organised crime (like Interpol), especially to be able to tackle illegal trade of CFC's. Also the involvement of the European Commission (especially DG ENV and DG TAXUD) was found to be necessary.
	<b>17.</b>	<b>Summary of agreements and action points, ending of the conference</b>
	17.1	The chairman summarised the agreements made and action points agreed during the EurOzone Conference.
	17.2	The chairman welcomed the initiative of Mrs Birte Borglum of Denmark, to be the host of the next (combined) conference on EurOzone, CLEEN and ECLIPS. The conference will be scheduled around September 2002 in Copenhagen.
	17.3	The chairman thanked all participants for their fruitful discussions at the conference and closed the meeting.



## ANNEX 6

## Additional information on sea-going ships in relation to EU Regulation 2037/2000

The table below refers to halon, but – according to information from the European Commission, this applies equally to refrigerants (note: dates are different and have to be crosschecked with the Regulation).

Table A6.1: The ability to service a ship with halon according to flag state and port location, based on compliance with Regulation 2037/2000

	EU flagged vessel	Non-EU flagged vessel
EU port	Cannot service after 31 December 2002 unless the use of the halon is listed in Annex VII (critical uses)	Cannot service after 31 December 2002 unless the use of the halon is listed in Annex VII (critical uses), as an EC-registered company is not permitted to service halon after this date in order to comply with Regulation EC2037/00.
Non-EU port	Cannot service after 31 December 2002 unless the use of the halon is listed in Annex VII (critical uses) as the EU-flagged vessel is legally considered EU territory	Service determined by national laws of non-EU port and flag state of vessel



## ANNEX 7

## Some national experiences in enforcement of legislation concerning 'leakages'

### A7.1 Denmark

#### **Definitions in connection with Regulation EC 2037/2000 of the European Parliament and of the Council on substances that deplete the ozone layer**

##### **Refill**

This is defined by the Danish Environmental Protection Agency (Danish EPA) and the National Working Environment Authority as any replenishment of coolants after a plant has been started for the first time.

##### **Accidents**

Accidents are defined as sudden leakage, in which large quantities of coolant stream from the plant. In the event of leakage from plant rated at above 5,000 kcal/h, such accidents must be reported to the National Working Environment Authority. In the event of leakage from smaller plant, the area in which the equipment is installed must be closed off from other rooms and expert assistance must be called.

##### **Leakage**

Leakage is defined as slow leaks of coolant. When detected, such leaks must be located and rectified. Should this not be possible, the equipment must be taken out of operation. In Denmark, refrigeration equipment is dimensioned according to the rules applying hitherto, i.e., for a design pressure of 0.8 times twice the vapour pressure of the relevant coolant at 40°C. For this reason, safety valves are usually only installed internally between the high- and low-pressure sides of the compressor, so that there is no exhaust into the open air.

##### **Sufficient preventive maintenance**

There is no brief definition of satisfactory and preventive maintenance. The National Working Environment Authority's regulations set a number of requirements, which cover plant configuration, the layout and marking of the rooms in which such plant is installed, the care and inspection of the plant and the available protective equipment.

It is worth mentioning that, before a refrigeration plant can enter operation - either as new or after workshop repairs - it must have passed a leak test carried out by a recognized firm proficient in refrigeration engineering.

When delivering installations rated at above 5,000 kcal/h and central refrigeration plant that supplies blocks of flats, etc., the supplier must also notify the National Working Environment Authority of the delivery.

Refrigeration installations rated at above 1,000 kcal/h (corresponding to about 1 kg coolant) must be delivered with clear operating instructions and must be annually inspected by a recognized firm proficient in refrigeration engineering. Such inspections, together with

information on any replenishment of coolant, must be recorded in the installation's inspection log. At companies, however, inspection can be carried out by an employee proficient in refrigeration engineering.

#### **Leakage rates**

In principle, refrigeration plant must be sealed. In practice, however, minor leakage, which will require minor coolant replenishment with the passage of time, occurs from plant equipped with shaft packing glands and similar vulnerable locations. Such service tasks as the replacement of filters and drying filters also results in minor coolant losses. The annual loss of coolant should never exceed 10% of the total coolant capacity.

#### **Further information**

The refrigeration industry in Denmark has established the Refrigeration Installers Environmental Protection Scheme (KMO), which controls the sale of coolants and the collection of used coolant for recycling or destruction. The secretariat's address is: Postboks 323, Vestergade 28, DK-4000 Roskilde, telephone (+45) 4632 7014. The Scheme also has a Web site at [www.kmo.dk](http://www.kmo.dk).

### **A7.2 France**

#### **Definitions of certain terms (refill, accidents, sufficient maintenance), way of interpreting and enforcing the leakage rate in France.**

#### **Requirements concerning maintenance and leakproofness and safe removal of ODS in the French Regulation.**

In France, the Decree of the 7<sup>th</sup> December 1992, amended by the Decree of the 30<sup>th</sup> June 1998, takes measures concerning recovery and leakages of CFC, HCFC and maintenance of equipment containing these substances. It includes HFC as well (global warming potential). The new Regulation EC 2037/2000 will be fully implemented by another amendment of the 7/12/1992 Decree, including domestic equipments (fridges, vehicles with air conditioning system) and special clauses for the destruction and the recovery of the fluids during and at the end of the life cycle of the equipment will be added.

#### **Refilling**

France considers that the refilling correspond to any filling of the installation, even with its own refrigerants recovered and regenerated, and not only with "new" refrigerants.

#### **Accidents**

It is difficult to know in general if the accident is due to non-sufficient maintenance (conducting to the breaking of an element of the installation) or to an incident independent of the installation. In France both were considered to be accidents. In most cases, the accidents were due to the breaking of one of the elements of the system because of a lack of maintenance.

Separate treatment, in the report form, for leakages due to accident and normal leakage, wouldn't be efficient to complicate too much the form.

In France, inspectors had much difficulties to calculate the "normal" (or current) leakage rate, because in most cases, the calculation was based on the whole amount of refrigerant refilled in a year, including the refilling due to accident which is important (can raise up to 100% of the refrigerant).

### Sufficient preventive maintenance

During the inspections, sufficient preventive maintenance was being defined in the sense of the French Decree. That is to say that the inspectors checked if the documents asked in the Decree were available on the site and correctly filled. They checked as well if the company handling the refrigerants and providing maintenance was registered by the administration (which supposes certain criteria of reliability). It can be the company visited itself if the maintenance is realised by the inner personal.

Besides, the inspectors took into account if there was a maintenance contract with a company and in that case how often maintenance was provided.

### Rulings of the Decree of 7/12/1992 amended in 1998 for maintenance:

- Article 1: The equipment containing refrigerants such as CFC, HCFC (and HFC) have to handle a label on which is written: the name, the initial quantity (kg) of refrigerant they contain.
- Article 3: obliges any company, owner or user of an equipment containing refrigerant such as CFC, HCFC (and HFC), to have a specific form filled in for any operation made on the equipment, with refrigerant handling. It is called "**intervention form**". It is the qualified operator (maintenance company or inner personal) who fills this form with the representative of that company (owner), which is obliged to keep it 3 years and to present it in case of inspection.
- Article 3 bis: Obliges the company (owner or user) to make realise by a independent maintenance company a leakages detection test (confinement test) once a year. The form filled on this occasion has to be kept 3 years and presented in case of inspection. It is called "**yearly leakages control certificate**".
- Article 4: Obligation for any operator working in the field of refrigeration or air conditioning and handling refrigerants to be registered by the administration. The conditions of registration (competence and education of the person operating, existing equipment for operating) have to be proved by presenting a dossier containing diplomas, invoices, or a certificate of qualification of the company, which guarantees that these minimum criteria are satisfied (several system exist). (Article 5 and 6 of the Decree).

A list of equipment compulsory for the handling of refrigerants is settled in an Order applying the Decree of 7/12/1992. A list of diplomas or equivalent is given in a Circular. Both of these regulations will be revised with the arrival of the new Decree in preparation.

### **Interpretation of the "leakage rates" and way of enforcement of the limit values.**

The leakage rate has been interpreted as the average percentage of refrigerant leaking of a equipment during a year, compared to the initial quantity existing in the equipment. It has been calculated from the amount of refrigerant refilled each year, including accident and maintenance needs.

The information collected was quite inhomogeneous (data on 0 to 6 years, 1995 – 2001). The information was collected on the documents asked by the Regulation, if existed: (intervention forms, yearly leakages control certificates) and the logbook or what could be considered as so if it existed. The invoices of refrigerants purchases were hardly ever available.

The limit value of 10% has not been taken into account in the controls. There is no mention of limit value for leakages in the French Decree. Nevertheless, there is a detection limit imposed for the leakages detector (5 g per year) and for the ambience control (10 ppm).

#### **Recovery of refrigerants:**

- Article 2: obliges to recover the refrigerants.

Convention for the recovery of CFC and HCFC had been signed by the profession. Since the use of CFC is not allowed any more, the convention has to be completely reviewed.

### **A7.3 The Netherlands**

#### **Regulations on leakages and maintenance in the Netherlands**

##### **Requirements concerning maintenance and leakproofness**

In the Netherlands Regulation EC 2037/2000 is implemented by the Decree on substances, which deplete the ozone layer.

#### **Maintenance**

According to article 13 of this Decree, personnel or companies undertaking the maintenance or installation of refrigerating systems and who professionally use refrigerants, shall hold a certificate issued by a body appointed by the Minister of Housing, Spatial Planning and Environment. STEK (Foundation for the approval of refrigeration contractors) has been appointed for this purpose. As part of this system, recognition requirements have been introduced concerning the competence of refrigerating system technicians and installers and the precautions that have to be observed in their work.

STEK looks after the coordination and registration of:

- Installers (handling requests for examination and distribution of diplomas);
- Companies (certification of activities by a sector approach);
- Auditing activities and results (execution of audit and feedback on results);
- Refrigeration installations (registration of installation, refrigerant, volume, etc.);
- Refrigerants used (registration of CFC's, HCFC's and HFC's used per activity).

The owner of a refrigerating system with a total refrigerant charge equal to or more than 3 kg shall have this system inspected and maintained at least annually by a person or a company holding a STEK-certificate.

#### **Leakproofness**

According to article 15 of this Decree the refrigerants may only be used or contained in a refrigerating system for professional purposes if that system is adequately leak proof. This last aspect is implemented by an Administrative Order on technical requirements for refrigeration equipment. These requirements are binding for owners of refrigerating systems as well as for those undertaking maintenance or installation activities.

These requirements apply to the materials and components used, the design and installation of refrigerating systems, as well as the scheduled inspection of the leakproofness of refrigerating systems.

The Order on leak-free refrigeration equipment does not set any statutory limits on leakage losses. But the Inspectorate (enforcing authority) will take measures if the refrigerant losses exceed 10% of the total refrigerant charge per year and the installation is refilled three times

a year or more. These percentages are used as guidelines for the assessment of the leakproofness of refrigerating system under the enforcement of the Order.

### **Accidents**

If an accident has resulted in a major refrigerant leak it is up to the enforcing authority to decide whether or not the system is sufficiently leak proof (apart from the accident) and that the loss through the leak are no more than an incident which does not necessarily indicate that the leakproofness regulations were infringed. If the observed leaks have a permanent cause related to the construction, operation or maintenance of a refrigerating system, these percentages will be among the criteria considered when assessing whether or not the refrigerating system under consideration is sufficiently leak proof.

### **Responsibility**

The Order on leak-free refrigeration equipment addresses both managers of refrigerating systems and the persons or contractors who undertake maintenance or installation activities affecting these systems. The Order includes requirements to be fulfilled by these persons or contractors.

### **How to determine the capacity of the installation**

A refrigerating system has to be provided with an identification plate indicating:

- The name of the supplier or installer;
- Type of refrigerating system;
- Identification number;
- Type of refrigerant and total refrigerant charge.

The manager shall provide an instruction card at an easily accessible location near the refrigerating system. This instruction card shall include at least the following information:

- Name, address and telephone number of the installer and the maintenance service;
- Type of refrigerant;
- Quantity of refrigerant required in the refrigerating system for the normal operation of that system;
- Instructions for the start up and (emergency) shutdown of the refrigerating system.

If it's not possible to determine the total content of the installation, because of the absence of the identification plate and the instruction card, one can estimate the capacity of the installation. Approximately  $\frac{3}{4}$  part of the receiver is equal to the total content of the installation.

This applies only to small, compact installations. With regard to bigger installations it is difficult to recover the content, because it's unknown what the amount of components and pipes inside the installation is.

### **How to determine refrigerant losses**

The manager of a refrigerating system with a total refrigerant charge equal to or greater than 3 kg shall have a system logbook, which is kept in the vicinity of the refrigerating system.

The system logbook includes information about:

- Maintenance, repair and installation activities on the refrigerating system;
- Faults and alarms related to the refrigerating system;
- Quantity and type of refrigerant charged into and drained from the system;
- Results of leak detection activities;
- The name of the person/company who undertook the activities.

STEK-certified personnel or companies are also responsible for the administration of refrigerants, as well as the financial administration.

#### **Sampling and analysis**

To get a first indication of the type of refrigerant, a mobile refrigerant gas analyser can be used as a diagnostic instrument. It is designed to evaluate refrigerant gas samples taken directly from refrigerating systems. To impose administrative or criminal sanctions on the offender, it's necessary to bring samples to an authorized laboratory.

#### **Refill**

According to Regulation EC 2037/2000 (article 4.4.iii) it is now forbidden to use controlled substances for the maintenance or servicing of refrigeration and air-conditioning equipment. The definition of use is the utilisation of controlled substances in the production or maintenance, in particular **refilling**, of products of equipment or in other processes except for feedstock and processing agent uses. In the Netherlands the filling of the installation with the same refrigerants after the servicing and maintenance of equipment is not seen as refilling as covered by the definition of use and is therefore allowed. If this interpretation of Regulation EC 2037/2000 is correct is now being inquired by the Commission.

#### **Further information**

The address of STEK is: Varrolaan 100, P.O. box 8138, 3503 RC Utrecht, telephone (+31) 306898920, fax (+31) 6899910. STEK also has a Web site at [www.stek.nl](http://www.stek.nl) (only in Dutch).

## ANNEX 8

## Additional tips and information for tackling illegal trade of ODS

### A.8.1 Tips for the inspections related to illegal trade of Ozone Depleting Substances

#### Customs:

- Check imports of goods with Custom Code (tariff code) **2903** (halogenated derivatives of hydrocarbons), **3824** (other chemical products), **3813** (preparations and charges for fire extinguishers) and **3814** (organic composite solvents), especially originating from China, Singapore and Switzerland.
  - China is a CFC producer, but it does not produce HFC 134A (so be aware of misdeclaration).
  - A lot of Ozone Depleting Substances (ODS) are produced in China, but exported via Singapore.
  - Import of ODS in the EU via Switzerland is attractive because of simple custom procedures. Be aware of misdeclaration. Switzerland can't be the country of origin as Switzerland does not produce ODS.
- Compare the packing list, bill of entry and the country of origin to make sure they match.
- Compare the data (especially the destination) on the CMR (document for road transport of goods) with the T1 custom document.
- Ensure the customs code on the entry matches the description on the invoice.
- Compare the invoice and the bill of loading to the outward bound ships manifest.
- Verify the country of origin. Is the country a party of the Montreal Protocol and its amendments?
- Verify that the producer, importer, trader and place of business actually exist and that they are related to chemicals (for instance via the computerised database 'World base').
- If a P.O. Box number is mentioned as the place of destination, be alerted. Chemicals will not be delivered at a P.O. Box.
- Be alerted if cylinders from China have US labels.
- Be alerted if the value of the ODS according to the custom documents is very low or high. The price of one kg R 22 at gas traders in EU countries is about 4 Euro. R 134a: 7 Euro. R404 or R507: 12 Euro. A few years ago R12 was sold for 3 Euro (new) and 12 Euro (recycled).
- Reusable cylinders are sometimes described as empty cylinders. Importers may give false tare and gross weights.
- Disposable cylinders containing ODS are forbidden (essential use excluded).
- Be alerted if cylinders have been painted, show signs of tampering or have paper labels. Most gas cylinders have a silk-screened or spray painted label.
- Be alerted if cylinders have two filling points. Maybe a second (smaller) cylinder is placed in the main cylinder.
- Verify that the container number actually exists. Discovery of fictitious container numbers have lead to the disclosure of illegal trade.
- Contact the licensing agency to verify with that importer is licensed to import that specific material.

**Customs and inspectorates:**

- Visit trading companies (as part of the EurOzone project 'Illegal trade of Ozone Depleting Substances') together (custom officer and inspector).
- Check imports, transports and exports of goods with UN number **1028** (=R12). Also UN numbers 1974 (=halon 1211), 1009 (=halon 1301) and 1973 (=R502) are of interest. UN Numbers are used at transport of dangerous goods.

**A.8.2 Additional information**

The UNEP has recently published the "Training Manual for Customs Officers". This document is available as a .PDF file at

<http://www.uneptie.org/ozonaction/library/reports/main.html - customs>

This manual provides guidance to National Ozone Units, implementing agencies and customs trainers on how to organize and conduct multi-phased customs training programmes. It includes generic agendas, concept notes, evaluation questionnaires, as well as all relevant training materials and overheads. It focuses on the identification of ODS and ODS-containing mixtures, products containing and equipment based on ODS as well as the different smuggling schemes and should be used in conjunction with the country specific "Country Handbook on ODS Legislation and Import / Export Licensing System" (which is also available on the same web site).

Hardcopy versions of the manual can be purchased from UNEP's official distribution agent, SMI Services Ltd. either through Earthprint (<http://www.earthprint.com/>, a secure site that permits on-line credit card purchases) or through:

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