I

(Information)

COUNCIL

Report on the application in the Member States of Directive 82/501/EEC of 24 June 1982 on the major-accident hazards of certain industrial activities for the period 1997-1999

(2002/C 28/01)

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1. INTRODUCTION

Council Directive 82/501/EEC of 24 June 1982 on the major-accident hazards of certain industrial activities ([1]) (commonly known as the Seveso Directive) aims at the prevention of major accidents involving dangerous substances and the limitation of their consequences for man and environment.

It requires industrial operators, Member States and the Commission to take a number of measures.

Article 18 of the Directive provided that the Member States and the Commission shall exchange information on the experience acquired with regard to the prevention of Major Accidents and the limitation of their consequences; five years after notification of the Directive, the Commission must forward to the Council and the European Parliament a report on its application, to be drawn up on the basis of this exchange of information.

On 18 May 1988, the Commission presented a first report ([2]) on the application in the Member States of the Seveso Directive.

Council Directive 91/692/EEC ([3]) has since replaced Article 18 of Directive 82/501/EEC and has introduced a new requirement that obliges the Commission to prepare triannual reports, starting with the period 1994-1996.

According to Directive 91/692/EEC, this report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission and the Commission shall publish a Community report on the implementation of the Directive within nine months of receiving the reports from the Member States.

On 12 October 1999, the Commission publishes the report ([4]) for the period 1994-1996. This document is the report for the period 1997-1999.

Directive 82/501/EEC has been repealed effect as from 3 February 1999 and replaced by Directive 96/82/EC. According to Article 19(4) of the latter, the reporting is unchanged. The report covers the Seveso I Directive, and, when available, information on the implementation of the Seveso II Directive has also been added. The reporting is made according to the amended *pro forma* (see 4.1.1).

This report starts with a general overview of the main obligations of the Seveso Directive and then briefly describes the amendments to the Directive. It also contains information on the new Seveso II Directive that has replaced the original Seveso Directive as from 3 February 1999 (Chapter 2).

The next part of the report covers the transposition of the Seveso Directive and its amendments into national laws, regulations and administrative provisions in the Member States (Chapter 3).

Chapter 4 starts with the questionnaires that have been used in the reporting period 1997-1999 and then goes on to the specific situations in the Member States.

Further chapters cover the work of the Committee of Competent Authorities (Chapter 5) and other Commission activities during the reporting period 1997-1999, such as data collection on accidents and dissemination of information, performed by the *Major Accident Hazards Bureau* (MAHB), as well as activities such as workshops, seminars and conferences (Chapter 6).

The report finishes with a summary in which an attempt to compare the situation in the different Member States has been carried out (Chapter 7).

In some cases, Member States provided also information related to a period beyond 1999. When information related to a period beyond 1999 has been used, this has been clearly indicated and, therefore, the Report, to a limited extent, will comment on circumstances related to a period after 1999.

2. THE SEVESO DIRECTIVE

2.1. General overview of the main obligations laid down in the Seveso Directive

The Seveso Directive applies to existing industrial activities, i.e. those established before 8 January 1984 and to new industrial activities, i.e. those brought into use after 8 January 1984.

It lays down two types of obligations:

— General obligations of the type set out in Articles 3 and 4, concerning safety measures and measures to prevent major accidents in industrial installations of the kind covered by Annexes I and IV or Annex II (first column);

— Specific obligations in respect of installations covered by Annexes I and III or Annex II (second column).

([1]) OJ L 230, 5.8.1982, p. 1.
([2]) COM (88) 261 final.
([3]) OJ L 377, 31.12.1991, p. 48.
([4]) OJ C 291, 1.10.1991.

The specific obligations include the following three points in particular:

— Notification — via the safety report and the on-site emergency plan — by the manufacturer to the Competent Authorities of the items of information listed in Article 5, paragraph 1 of the Directive, i.e. information on substances, information on the installation and information relating to possible major-accident situations;

— Drawing up by the responsible Authorities of emergency plans for action outside establishments (Article 7(1)), referred to in Section 2 below as external emergency plans;

— Communication, to persons liable to be affected by a major accident, of information on safety measures and what to do in the event of an accident (Article 8(1)).

The Seveso Directive also provides that the Competent Authorities must organise inspections or other measures of control proper to the type of activity concerned (Article 7(2)).

In the event of a major accident, the operator must immediately inform the Competent Authorities thereof and provide them with information about it. The Authorities in their turn must inform the Commission and send a report on the accident. This obligation is set out in Articles 10 and 11 of the Directive.

2.2. **Amendments to the Seveso Directive**

2.2.1. *Council Directive 87/216/EEC of 19 March 1987* ([1])

This first revision of the Seveso Directive limited itself to correcting and clarifying some entries and threshold levels in Annexes I, II and III of the Directive. It was aimed at avoiding different interpretations of the scope of the Directive, thus ensuring a more coherent and effective implementation by the Member States.

The lowering of threshold quantities in Annexes II and III was deemed necessary in order to reinforce the provisions of the Directive concerning industrial activities which involve particularly dangerous substances such as chlorine, phosgene or methylisocyanate.

Other amendments concerned the inclusion of liquid oxygen and sulphur trioxide, and a better definition of certain substances or groups of substances.

2.2.2. *Council Directive 88/610/EEC of 24 November 1988* ([2])

Following the warehouse fire at the premises of the Sandoz Company in Basle, Switzerland on 1 November 1986, the second amendment to the Seveso Directive aimed at the inclusion of the isolated storage of dangerous substances.

This amendment also brought a new list of dangerous substances (new Annex II) and entered a new category of substances (oxidizing substances — amendment of Annex IV, amongst others).

Furthermore, the items of information to be communicated to the public in the case of an accident were listed in a new Annex VII to the Directive ([3]).

2.2.3. *Council Directive 91/692/EEC of 23 December 1991* ([4])

This horizontal framework Directive on the standardisation and the rationalisation of reports on the implementation of certain Directives in relation to the environment replaced Article 18 of the Seveso Directive and introduced a new requirement that obliges the Commission to prepare triannual reports, starting with the period 1994-1996.

2.3. **The new Seveso II Directive**

On 9 December 1996 Directive 96/82/EC on the control of major-accident hazards ([5]) (the 'Seveso II' Directive) was adopted by the Council. Following its publication in the *Official Journal of the European Communities* the Directive entered into force on 3 February 1997.

Member States had up to two years to bring into force the national laws, regulations and administrative provisions to comply with the Directive (transposition period). From 3 February 1999 at the latest the obligations of the Directive have become mandatory for industry as well as the public authorities of the Member States responsible for the implementation and enforcement of the Directive.

([1]) OJ L 85, 28.3.1987, p. 36.

([2]) OJ L 336, 7.12.1988, p. 14.

([3]) Further elaborated, following a resolution from the Council of Ministers (16 October 1989, published in OJ C 273, 26.10.1989, p. 1), in: B. De Marchi & S. Funtowicz: General Guidelines for Content of Information to the Public (Directive 82/501/EEC — Annex VII) EUR 15946 EN (1994), published also in French EUR 15946 FR, German EUR 15946 DE and Spanish EUR 15946 ES.

([4]) OJ L 337, 31.12.1991, p. 48.

([5]) OJ L 10, 14.1.1997, p. 13.

The Seveso II Directive has replaced the original Seveso Directive. This revision of the original Seveso Directive was presented not in the form of an amendment but as a completely new Directive, demonstrating that important changes have been made and new concepts have been introduced. These include a revision and extension of the scope, the introduction of new requirements relating to safety management systems, emergency planning and land-use planning and a reinforcement of the provisions on inspections to be carried out by Member States.

3. TRANSPOSITION OF THE SEVESO DIRECTIVE AND ITS AMENDMENTS IN THE MEMBER STATES

3.1. Introduction

The Commission has two tasks with regard to controlling the implementation of Community law in the Member States:

— controlling the correct and complete transposition of Community Directives into national laws, regulations and administrative provisions, and

— controlling the application in practice of the national laws, regulations and administrative provisions in the Member States.

Under Article 226 of the Treaty the Commission may bring proceedings for failure to comply against Member States which do not meet their obligations. This procedure starts with a letter of formal notice, followed by a reasoned opinion, and then by bringing the matter before the Court of Justice.

3.2. Situation with regard to complaints and infringements of the Seveso II Directive (status September 2001)

The deadline for the transposition was 3 February 1999. The Commission had to start several infringement procedures against Member States for their failure to transpose the Major Accident Hazards Directive (Seveso II) on time.

Some Member States have been referred to the European Court of Justice by the Commission since they have still not fully transposed the Directive or have in any case not communicated the necessary legislative measures to the Commission (non-communication).

In September 2001 Court judgements are awaited concerning Austria, Belgium, Germany, Ireland for incomplete communication of transposing measures.

Moreover, the Commission has also decided in July 2001 to refer France to the Court of justice for incomplete communication.

4. APPLICATION IN PRACTICE

4.1. The questionnaires

4.1.1. *The questionnaires for the reporting period 1997-1999*

The procedure laid down in the Council Directive 91/692/EEC to establish and formally adopt a questionnaire has never been concluded. Although the Seveso II Directive entered into mandatory application on 3 February 1999 i.e. during the reporting period — it had been decided, in order to ensure consistent reporting, to use the amended *pro forma* for the whole of the reporting period. This *pro forma* was set up as a form for informal collation of information from the Member States each year.

The Member States undertook to provide the Commission with information on the basis of this amended *pro forma* for the years 1997-1999. The questionnaire used can be found in Annex I.

4.1.2. *Answers to the questionnaires for the reporting period 1997-1999*

The answers of the Member States are summarised and presented in three tables, one table for each year. They can be found in Annexes.

Note: Empty fields mean that there are no answers given or that the answers proposed do not respond to the question appropriately. In those cases further explanations and comments will be given in the particular chapter of the Member State.

4.2. Situation in the Member States

This section and the next are based on the information contained in the questionnaires, and cover the reporting period 1997-1999.

The information for each Member State is set out under the following headings:

— General remarks (if necessary)

— Main national laws

— Authorities

— Competent Authorities

— Implementing Authorities (where indicated)

— Sites covered by Article 5 (of the Directive 82/501/EEC)

— Activities on sites

— Safety reports

— Internal emergency plans

— Formal action/legal requirements

— External emergency plan

— Inspections

— Information to the public

— Notification of accidents

— Observations.

4.2.1. *Belgium*

Main national laws

Federal level

Chapter VI Particular measures in reports of certain industrial activities ([1]) inserted in the General Regulation on the Protection on Work (RGPT) by the Royal Decree of 1st February 1985.

Law of 21st January 1987 on the major-accident hazards of certain industrial activities ([2]).

Regional level

The Directive is integrated into the various licensing systems for classified establishments:

— Decree of 28th June 1985 for the Flemish Region ([3]).

— Decree of 11th September 1985 for the Walloon Region ([4]).

— Ordinance of 30th July 1992 for the Brussels Region ([5]).

([1]) Moniteur Belge, 26th March 1985.
([2]) Moniteur Belge, 10th March 1987.
([3]) Moniteur Belge, 17th September 1985.
([4]) Moniteur Belge, 24th January 1986.
([5]) Moniteur Belge, 29th August 1992.

Competent Authorities

Federal level

Federal Ministry of Employment and Labour — Administration of Labour Safety — Chemical Risks Directorate

Federal Ministry of the Interior – Directorate General of the Civil Protection

Federal Ministry of Economic Affairs — Administration of quality and safety

Regional level

Ministry of the Flemish Community — Administration for Environment, Nature, Land and Waste Management (AMINAL)

Ministry of the Walloon Region — Directorate General for Natural Resources and the Environment (DGRNE)

Brussels Institute for the environment management (IBGE).

Sites covered by Article 5 (82/501/EEC)

In Belgium 85 sites were covered by Article 5 at the end of 1996, 89 at the end of 1997 and 1998 and 84 at the end of 1999.

Activities on sites

In 1996, 266 activities were indicated as being pursued in Seveso sites, this number rose to 293 in 1998 and came down to 289 in 1999.

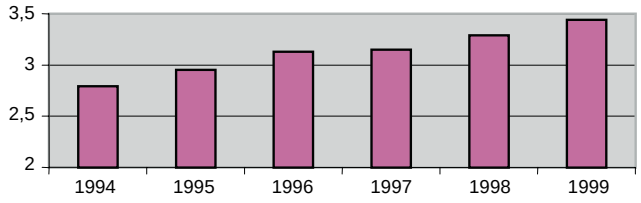
In fact these figures refer to 'installations', and since sometimes more than one installation is involved in a single activity, it is thought that the number of activities is actually about 20 % smaller.

Most of the installations are concentrated in a few very large chemical companies and in the petroleum refineries in Antwerp. The number of installations in these large sites is changing continuously.

Over the period 1994-1999, the total number of sites remained stable, while the number of activities increased, thus resulting in an increase of the number of activities per site as shown by the following figure:

Figure 1

Number of activities per site in Belgium



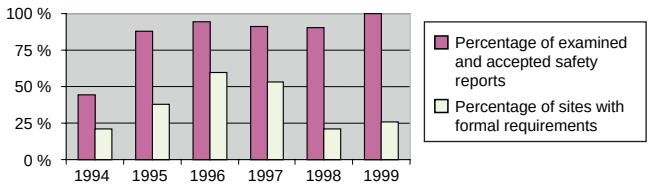
Safety reports

All safety reports contained internal emergency plans or have contributed towards a site internal emergency plan. The percentage of safety reports examined by safety authorities and judged as sufficient for adequate administrative follow-up was 92 % in 1996, 91 % in 1997, 90 % in 1998 and 100 % in 1999.

It is particularly interesting to see that, over the reporting period, like in many Member States, the percentage of sites that have had formal requests or legal requirements increased over the period 1994-1996 and decreased then. A possible explanation may be an increased care in the check of the safety reports and consequently an increase in the quality of the safety reports, thus leading to a decrease in the number of formal requests and legal requirements to the Seveso sites.

Figure 2

Accepted safety reports and sites with formal requirements



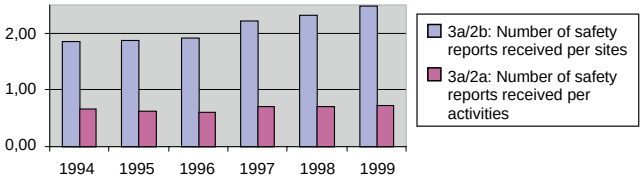
The number of expected safety reports in Belgium increased over the period 1994-1999 in a similar proportion to the number of activities, this being highlighted by the red diagram (right one) showing a constant ratio between number of safety reports and activities. Nevertheless, the ratio between the number of safety reports received and the number of sites increased over the period 1994-1999. This can be explained by the conjunction of two factors:

— stability of the number of sites and increased number of activities

— in Belgium, a Safety Report can be related to a site or an activity. In most cases, the Safety Reports are related to the activities.

Figure 3

Received safety reports per sites and per activities



External emergency plan

The percentage of sites with external emergency plans rose from 69 % in 1997 to 86 % in 1999.

Inspections

During the reporting period, every year, all sites have been subject to inspection.

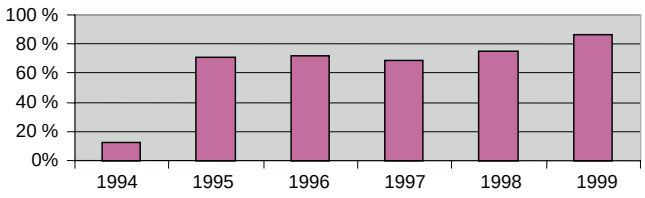
Information to the public

The number of sites that have issued information to the public increased over the period 1994-1999 like in most Member States, and reached 86 % of the sites, the highest value in the European Union.

In Belgium, the information to the public has to be issued, not by the operators, but by the Civil Protection of the Ministry of Home Affairs.

Figure 4

Percentage of sites that issued information to the public



4.2.2. *Denmark*

Main national laws

Order No 520 of the Ministry of the Environment of 5 July 1990 on the assessment of safety in relation to hazardous activities

Order No 867 of the Ministry of Labour of 13 October 1994 on the Performance of Work, amended by Order No 1017, dated December 7th 1997.

Danish Preparedness Act No 1054 of 23 December 1992.

Law No 567 of 1 September 1986 on the Administration of Justice.

Competent Authorities

Ministry of Environment, Environmental Protection Agency

Ministry of Labour, Working Environment Service

Ministry of Justice

Ministry of the Interior, Emergency Management Agency

Implementing Authorities

Environmental Protection Agency

The County Councils

Municipal Rescue Preparedness, Emergency Management Agency

Working Environment Service

The Police

Sites covered by Article 5 (82/501/EEC)

The number of sites covered by Article 5 in Denmark decreased from 24 at the end of 1994 to 21, at the end of 1996 and reached 18 at the end of 1999.

Activities on sites

On these 18 sites there were at the end of 1999, 24 activities in operation.

Safety reports

The Danish Competent Authorities received a total number of 44 safety reports; no further more are expected. 19 safety reports contain internal emergency plans. All safety reports have been examined by the Competent Authority and judged as sufficient.

The number given is the total numbers of all safety reports received from the sites actually covered by the Directive till now, including updated versions. This explains the large number of safety reports.

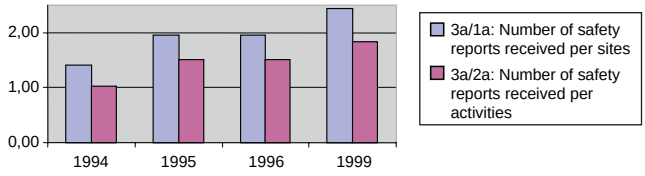
16 sites have had formal requirements or legal action taken by Competent Authorities resulting from examination of the safety report in respect of obligations under Article 7(1) – last indent.

In Denmark 'formal requirements' has been interpreted to include request for further information in addition to the safety reports received, or letters ordering the company to take additional measures to prevent major accidents.

Legal actions in the sense of taking a company to court, to enforce the legislation transposing the Directive, have not been taken in Denmark.

Figure 5

Received safety reports per sites and per activities



The number of safety reports received per sites and per activities increased over the period 1994-1999, while the number of sites that have had legal or formal requirements remains very high (around 86 %) over the period 1994-1999.

All sites have an internal emergency plan.

External emergency plans

There are 18 external emergency plans in existence, so all sites have an external emergency plan.

Inspections

In Denmark, during the reporting period, all sites have been subject to inspections as referred to in Article 7(2).

Information to the public

Information to the public as required by Article 8 was issued for 11 sites. In Denmark information to the public, as required in accordance with Annex B of Directive 88/610/EEC, is issued by the Police based on information provided by the company.

Notification of accidents

One accident was reported during the reported period.

Observations

The implementation of the Seveso Directive has improved again significantly during the reporting period, in particular as regards the preparation of safety reports by the manufacturers and the collaboration between the competent authorities at the central as well as the local level in fulfilling the obligations of the Directive.

The number of sites covered by the Directive has decreased during the period mainly due to reduced storage capacity for liquid ammonia and LPG.

4.2.3. *Germany*

General remarks

The German implementation of the Seveso Directive, the 'Störfall-Verordnung 1991' does not refer to sites, but to installations. Therefore, all the answers given to the 1997-1999 questionnaires refer to 'installations'. Installations covered by the 'Störfall-Verordnung' need a permit before they may be constructed and/or operated. Within this permitting procedure the safety reports are examined and, where appropriate, formal requirements or legal action are taken by the competent authorities. The safety reports are also a very important instrument for further inspection and for the consideration of major changes of these installations.

Data concerning internal and external emergency plans have not been collected separately so far; therefore answers to these questions cannot be given. However, all installations coming under Article 5 require an internal emergency plan, which is prepared in consultation with the competent authority. All data given below refer to 1999.

Main national laws

Bundes-Immissionsschutzgesetz — BImSchG (Federal Immission Control Act)

Störfall-Verordnung (Hazardous Incident Ordinance)

1., 2., 3. Störfall-Verwaltungsvorschrift (First, Second, Third General Administrative Provision on the Hazardous Incident Ordinance)

Competent Authorities

Federal Authorities

Federal Ministry for the Environment, Nature Protection and Nuclear Safety

Federal Ministry of Labour and Social Affairs

Federal Ministry of Interior

Länder Authorities

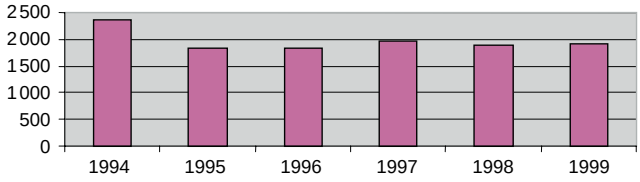
Various ministries and local authorities

Sites/Activities covered by Article 5 (82/501/EEC)

In Germany there were 1955 installations covered by Article 5 in 1997, 1 893 in 1998 and 1 903 in 1999. There are no data available for the number of sites, as has been explained above. The percentage of 'new' installations was around 14 % each year.

Figure 6

Total number of sites/installations



After an important decrease between 1994 and 1995, the number of sites remains around 1 900 in Germany over the reporting period 1997-1999.

Safety reports

1 874 safety reports have already been submitted in 1999 to the competent authorities and 1 849 have been examined. In 1997, 1 754 safety reports out of a total of 1 955 have been examined. In 1998, 1 869 out of a total of 1 893 have been examined. There are no further safety reports expected so far.

There are no data available for internal emergency plans, since such data have not yet been collected separately, as explained above. In 1997 this number was 1 955 and in 1998 it was 1 893.

External emergency plan

There are no data available for external emergency plans, since such data have not been collected so far, as explained above.

Inspections

1 849 safety reports were examined and considered to be satisfactory. The number of inspections in accordance with Article 7(2), is not at present available (question 6 b). There are no separate data available concerning formal requirements or legal action taken by the competent authorities resulting from examination of the safety reports in respect of obligations under Article 7(1), (question 5). There are also no data available concerning the examination of safety reports by independent external experts (question 7 a).

Information to the public

Information to the public has been given in 1 610 cases in 1997, in 1 559 cases in 1998 and in 1 562 cases in 1999. In the framework of the transposition of Article 8 of the Seveso I Directive, a guidance document and a study of the federal office for environment on the efficiency of the information to the public were published. The operator shall inform the general public, but such information shall be submitted for approval to the local competent authorities.

Notification of accidents

30 major accidents which occurred in the reporting period were notified to the MARS database.

Observations

In the period under review, there were no essential changes with regard to the Major Accident Control Policy of Germany. The competent Authority are now preparing the changeover to the Seveso II Directive.

4.2.4. *Greece*

Main national laws

Framework Law 1650/1986 for the Environment

Law 1568/1985 on Health and Safety

Common Ministerial Decision No 18187/272 of 24 February 1988 (transposition of Directive 82/501/EEC plus its first amendment into Greek legislation)

Common Ministerial Decision No 77119/4607 of 19 July 1993 (transposition of the second amendment to Directive 82/501/EEC plus some modifications)

Competent Authorities

Ministry of Environment, Physical Planning and Public Works (focal point for Greece)

Fire Corps Headquarters, Directorate of Fire Safety

Ministry of Industry

Ministry of Health

Ministry of Labour

Implementing Authorities

Ministry of the Interior

Ministry of Agriculture

Ministry of Transportation and Communications

Ministry of the Merchant Marine

Local Authorities (Prefectures)

Sites covered by Article 5 (82/501/EEC)

There are 56 sites being covered by Article 5, four of them being newly built.

Activities on sites

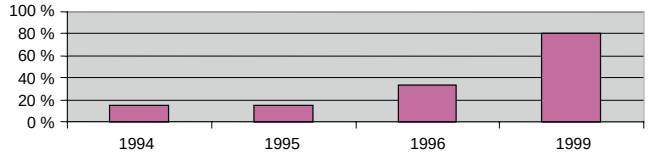
On these sites, there are 56 activities run, four of them new.

Safety reports

56 safety reports have already been submitted; no more are expected. 49 safety reports include internal emergency plans and 45 safety reports have been considered as sufficient by the Competent Authorities. The percentage of safety reports that included an internal emergency plan was around 92 %.

Figure 7

Safety reports examined and accepted



The percentage of safety reports examined by the Competent Authorities and judged as sufficient for adequate administrative follow-up increased over the period 1994-1999 in order to reach 80 % in 1999.

The percentage of sites that have had formal requirements or legal actions taken by competent authorities resulting from examination of the safety report was around 89 % for the reporting period.

External emergency plan

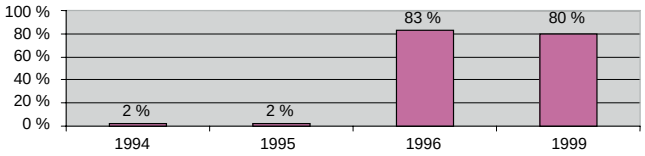
Two sites have external emergency plans. The Ministry of Environment, Physical Planning and Public Works in cooperation with the Prefectures of the most industrialised areas (Attika, Thessaloniki, Piraeus) and external experts, has completed the generic emergency plans for the case of an industrial accident in these areas, and intends to draw up the offsite emergency plans, of each industrial installation covered by Article 5 of the Council Directive 82/501/EEC. The total number of the offsite emergency plans to be drawn up in these three areas is expected to be 30.

Inspections

45 sites (80 %) of the sites have been subject to inspection during the reporting period.

Figure 8

Sites subject to inspection



The percentage of sites that have been subject to inspection has not changed significantly since 1996.

Information to the public

Only one site has issued information to the public.

General remark

Even if the percentage of safety reports examined by the Competent Authorities and judged as sufficient increased, a significant number of points of concern remain in the field of the information to the public, and of external emergency planning. As explained before, these points shall be solved in the next future.

4.2.5. *Spain*

Main national laws

National legislation

Real Decreto No 1254/1999, of 21 July 1999.

Legislation of the different Autonomous Communities

In Spain there are 19 competent authorities in the autonomous communities, having statutory powers in the geographical area concerned. This means that they must enact specific regulations to implement the national legislation; each community has enacted its own decree, nominating the competent department responsible for the various obligations that the Directive stipulates.

Competent authorities

National competent authority

Dirección General de Protección Civil — Ministerio de Interior (Directorate-General of Civil Protection — Minister of the Interior) in co-ordination with the National Department of Industry, Environment and Labour, and with the national Civil Protection services of each province.

Autonomous communities

In general it is the Department in charge of the tasks of Civil Protection in each Community which co-ordinates the implementation of the Directive in its area, with other Regional Departments such as Industry, Environment, Labour etc.

Local authorities

The different municipalities concerned have to develop their external emergency plans following the guidelines given by their autonomous community.

Sites covered by Article 5 (82/501/EEC)

At the end of 1999, 152 industrial sites in Spain were covered by Article 5, five of these were newly built.

Activities on sites

On these sites, there are 164 activities being run, five of them new.

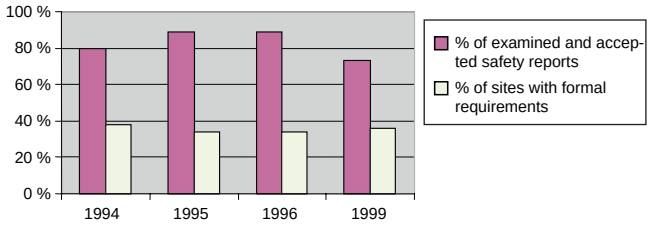
Safety reports

The competent authorities have already received 160 safety reports, with another five expected. All received safety reports contain internal emergency plans. The number of safety reports is higher than the number of

industrial sites covered, because some of the industrial sites which are covered only by Article 3 and 4 have presented safety reports voluntarily to the competent authority, in order to be included in off-site emergency planning.

Figure 9

Safety reports examined and accepted



The percentage of examined and accepted safety reports didn't follow the same evolution than in most Member States as this percentage decreased over the reporting period 1997-1999. The percentage of sites with formal requirements remains stable over the two reporting periods.

Formal action/legal requirements

The percentage of sites that have had formal requirements or legal action taken by competent authorities resulting from examination of the safety report was around 36 % for the reporting period.

External emergency plan

There are 108 external emergency plans for these sites, so the percentage of sites with external emergency plans is around 71 %.

Inspections

During the three years period, 80 sites were the object to inspections referred to in Article 7(2), e.g., in average around 18 % per year.

Information to the public

The percentage of sites having issued information to the public during the three years period was around 26 %. The Spanish Royal Decrees which transposes the Directive 82/501/EEC and amendments, foresees that 'competent authorities in the regional communities with the collaboration of the operators of the affected sites should give the information to the public'.

This information is spread through public campaigns (brochures, interviews, presentations and so on).

Notification of accidents

Four major accidents have been notified to the MAHB, two accidents took place in top-tier establishments and the others two in lower-tier establishments.

4.2.6. *France*

Main national laws

Law of 19 July 1976 on classified installations for the protection of the environment

Law of 22 July 1987 on the prevention of major risks

Competent authorities

The Ministry for the Environment is in charge of the legislation on classified installations.

The Ministry of the Interior is in charge of the general organisation of emergency services and preparedness for emergency situations.

The Prefect of the department issues licences. The inspectors of classified installations in the DRIRE assist the Prefect at the technical level. The Prefect of the department prepares the external emergency plan.

Sites covered by Article 5 (82/501/EEC)

In 1996, 392 sites were covered by Article 5 of the Seveso Directive. By the end of 1998, 371 sites were covered by Article 5.

Activities on sites

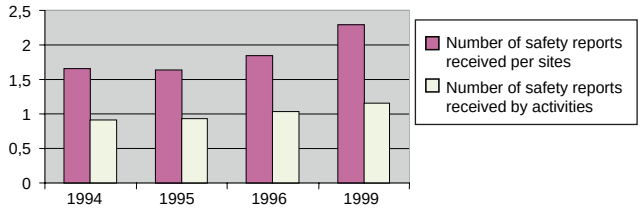
698 activities were carried out in 1996 and 740 activities were carried out on the sites listed under question 1 a.

Safety reports

850 safety reports have been submitted to the competent authorities, no more are expected. All safety reports have been examined by the inspectorate. Around 52 % of the safety reports contain an internal emergency plan.

Figure 10

Safety reports received per sites and per activities



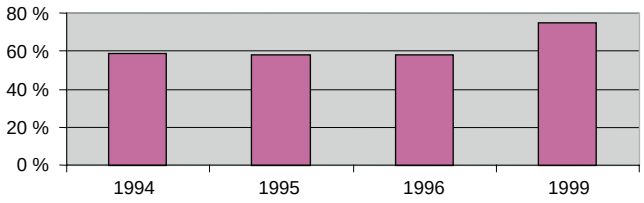
The number of safety reports received increased in 34 % over the period 1994-1999, while the number of sites decreased slightly, thus leading to increase the number of safety reports received per sites. As the number of activities increased also over the period 1994-1999, the ratio number of safety reports received by activities increased slightly.

External emergency plan

280 sites had an external emergency plan by the end of 1998.

Figure 11

Sites with external emergency plans



The percentage of sites with external emergency plans increased and reached 75 % by the end of 1999.

Inspections

There are no readily available data either on inspections as referred to in Article 7(2) or on legal action being taken by competent authorities.

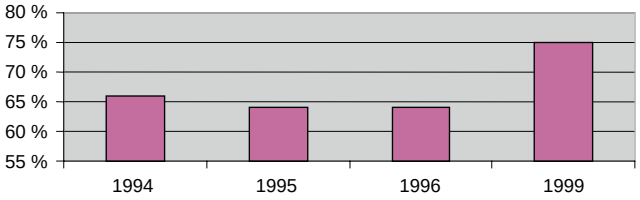
For all establishments covered by the Law of 16 July 1976 (63 000 establishments subject to authorisation), on average 20 000 inspections are made per year.

Information to the public

Information to the public according to Article 8 of the Seveso Directive has been given in 280 cases.

Figure 12

Percentage of sites that issue information to the public



The percentage of sites that issued information to the public increased over the period 1997-1999, for reaching the value 75 % in 1999.

Observations

63 000 establishments are covered by the law of 19 July 1976 and are subject to authorisation. The authorisation request must include, in particular, an impact assessment and a risk assessment. These studies are crucial in implementing the prevention of major accidents in terms of risk reduction at source, emergency planning, control of urbanisation, and information of the public.

4.2.7. *Ireland*

Main national laws

European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations, 1986 ([1])

European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1989 ([2])

European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1992 ([3])

Authorities

Central Competent Authority:

— National Authority for Occupational Safety and Health.

([1]) S.I. No 292-1986.
([2]) S.I. No 34-1989.
([3]) S.I. No 21-1992.

Local Competent Authorities:

— Garda Síochána (Police),

— Local Authorities,

— Regional Health Boards.

Sites covered by Article 5 (82/501/EEC)

In Ireland, 20 sites were covered by Article 5 of the Directive at the end of 1996, 19 by the end of 1997 and 16 by the end of 1999. The closure of two companies accounted for the loss of two sites.

Activities on sites

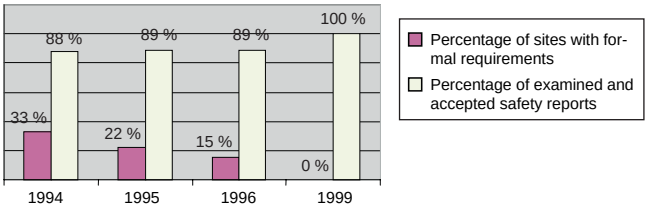
Ireland applies the Seveso Directive in terms of the whole establishment site rather than individual industrial activities, so that individual activity data is not available. However, with one exception there is only one activity per site so the numbers for activities are the above figures plus one.

Safety reports

In 1997, 18 safety reports had been received out of a total of 19 expected. In 1998, 17 safety reports had been received out of a total of 18 expected and in 1999 16 had been received out of a total of 16 expected. All safety reports include internal emergency plans and have been judged as sufficient for administrative follow-up.

Figure 13

Sites with formal requirements and accepted safety reports



While the percentage of sites with formal or legal requirements decreased over the period 1994-1999, the percentage of examined and accepted safety reports (that was already relatively high in comparison with European Union average in 1994) increased and reached 100 % in 1999.

The examination of the Safety Reports has not lead to formal requirements or legal action in the period under consideration.

External emergency plan

In 1997 and 1998, 13 sites had an associated external emergency plan. In 1999 12 sites had an associated external emergency plan, e.g. 75 % of the sites. In respect of external emergency plans three sites were considered not to present an offsite risk to the public.

Inspections

In 1997 and 1998, 16 sites were the object to inspections referred to in Article 7, e.g. around 85 % of the sites. In 1999, 12 sites were subject to inspection, i.e. 75 % of the sites.

Information to the public

In the period under consideration, three sites have not issued the required information to the public. So the percentage of sites having issued information to the public is around 80 %. The criteria for determining that a site had issued information to the public was by visits by inspectors to a number of people in the vicinity of the site to establish if they had received information.

Notification of accidents

No major accidents occurred within the reporting period.

4.2.8. *Italy*

Main national laws

Decreto del Presidente della Repubblica del 17 maggio 1998, n. 175 attuativo della direttiva CEE n. 82/501, relativi ai rischi di incidenti rilevanti connessi con determinate attivitá industriali.

Decreto del Presidente del Consiglio dei Ministri del 31 marzo 1989 sull'applicazione dell'articolo 12 del DPR 175/88

Decreto del Ministero dell'Ambiente del 20 maggio 1991; modificazioni ed integrazioni al DPR 17/05/1988 n. 175, in recipimento della direttiva CEE n. 86/610 che modifica la direttiva CEE n. 82/501 relativa ai rischi di incidenti rilevanti connessi con determinate attivitá industriali.

Decreti Legge not converted into laws: D.L. 10 gennaio 1994 n. 13, 10 marzo 1994 n. 278, 8 luglio 1994 n. 437, 7 settembre 1994, n. 529, 7 novembre 1994, n. 618, 7 gennaio 1995 n. 2, 9 marzo 1995 n. 65, 10 maggio 1995 n. 160, 7 luglio 1995 n. 271, 7

settembre 1995 n. 371, 8 novembre 1996 n. 5, 8 marzo 1996 n. 111, 3 maggio 1996 n. 245, 8 luglio 1996 n. 351, 6 settembre 1996 n. 461

Competent authorities

Ministero dell'Ambiente, Servizio Inquinamento Atmosferico, Acustico e delle Industrie a rischio. The Ministry of Environment is the central authority for the control of activities linked to the Seveso I Directive.

Ministero dell'Industria, Direzione Generale Fonti de Energia.

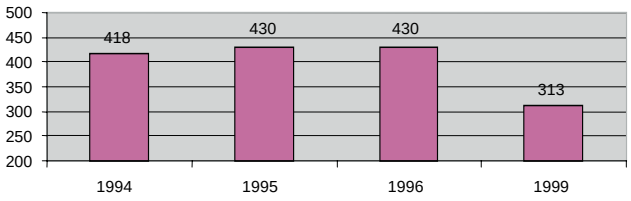
Ministero dell'Interno, Direzione Generale della Protezione Civile e dei Servizi Antincendio.

Sites covered by Article 5 (82/501/EEC)

In 1999, the Italian Authorities reported 313 sites covered by Article 5. This data seems inconsistent with the 430 sites identified in 1996. This is due to a change in the way to compute the number of sites.

Figure 14

Number of sites



Activities on sites

No data have been provided.

Safety reports

The Competent Authorities have received 301 safety reports and 12 safety reports are missing. 64 % of the safety reports have been examined.

Formal action/legal requirements

12 sites have had formal requirements for lack of notification. Many safety reports are still under instruction.

External emergency plan

272 external emergency plans out of a total of 313 sites have been drawn up, but many external emergency plans are provisional, as 192 plans are still under study.

Inspections

In 1994, 40 sites were subject to inspection as referred to in Article 7(2). This number rose to 179 inspections in 1996. In 1999, 65 inspections have been carried out. No safety reports have been examined by external independent experts. Data is not available on the number of safety reports that have been examined by competent authorities and judged as sufficient for adequate administrative follow-up to fulfil the obligations referred to in Article 7.

Information to the public

All sites have issued information to the public (campaign of information, publication in local newspaper, public assemblies, public meeting).

4.2.9. *Luxembourg*

Main national laws

Law of 17 June 1994 on Health and safety at work ([1])

Law of 17 June 1994 on Health and care services at work ([2])

Law of 8 June 1994 on Health and safety at work in the public sector ([3])

Law of 9 May 1990 concerning dangerous, unhealthy or noxious establishments ([4]).

Grand-Ducal regulation of 18 May 1990 listing and classifying dangerous, unhealthy or noxious establishments ([5]) modified by Grand-Ducal Regulation of 9 November 1993 ([6]).

Grand-Ducal Regulation of 10 April 1987 on the major accident hazards of certain industrial activities ([7]) modified by Grand-Ducal Regulation of 19 July 1991 ([8])

Law of 27 February 1986 on emergency medical aid.

([1]) Mémorial A 55, 1 July 1994, p. 1060.
([2]) Mémorial A 55, 1 July 1994, p. 1054.
([3]) Mémorial A 55, 1 July 1994, p. 1050.
([4]) Mémorial A 55, 23 May 1990, p. 310.
([5]) Memorial A 55, 23 May 1990, p. 316.
([6]) Mémorial A 91, 1 December 1993, p. 1652.
([7]) Mémorial A 23, 10 April 1987, p. 305.
([8]) Mémorial A 49, 2 August 1991, p. 999.

Law of 18 November 1976 on the organisation of disaster relief ([1]) modified by the Law of 11 January 1990 ([2]).

Law of 4 April 1974 on the organisation of the Labour and Mines Inspectorate ([3]) modified by the Law of 9 May 1990 (see above) and the Law of 17 June 1994 (see above).

Competent authorities

Interministerial Committee, chaired by a representative of the Ministry of Labour and Employment and made up of representatives of the Department of the Environment, the Department of Health, the Department of Internal Affairs, the Labour and Mines Inspectorate and experts.

Ministry of Labour and Employment.

Sites covered by Article 5 (82/501/EEC)

In Luxembourg there is a total of four sites.

Activities on sites

On each site there is a single activity.

Safety reports

Two safety reports have been received by the Competent Authorities.

External emergency plan

Two sites have an external emergency plan.

Inspections

Two sites have been subject to inspection referred to in Article 7(2).

Information to the public

No sites have issued information to the public.

4.2.10. *Netherlands*

Main national laws

Environmental Management Act ([4])

Decree on Establishments and Licenses ([5])

Major Accident Hazards Decree ([6])

Working Conditions Act ([7])

Decree on Working Conditions (Chapter 2, section 2) ([8])

Disasters and Major Accidents Acts ([9])

Decree on Information on Disasters and Major Accidents ([10])

Act on the Public Nature of Government ([11])

Competent authorities

Ministry of Social Affairs and Employment

Ministry of Housing, Spatial Planning and the Environment

Ministry of the Interior

Implementing authorities

County Aldermen (Provinces)

Courts of Mayor and Aldermen (Municipalities)

Labour Inspectorate

Mayors

Executive Committees of the Regional Fire Service

Sites covered by Article 5 (82/501/EEC)

In 1994, there were 115 sites covered by Article 5, 91 of which are obliged to make occupational safety reports. Three of the sites were newly built, and 46 newly covered by entry into force of Directive 88/610/EEC. The number of sites grew to 124 in 1996 and to 129 in 1999. Five new locations were reported since the last reporting period.

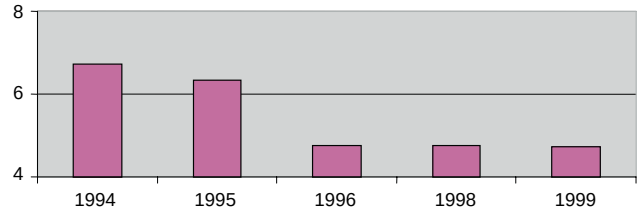
([1]) Mémorial A 69, 24 November 1976, p. 1125.
([2]) Mémorial A 4, 27 January 1990, p. 26.
([3]) Mémorial A 27, 18 April 1974, p. 486.
([4]) Stb. 1994/80.
([5]) Stb. 1993/50.
([6]) Stb. 1992/291.
([7]) Stb. 1980/664.
([8]) Stb. 1997/60.
([9]) Stb. 1985/88.
([10]) Stb. 1994/463.
([11]) Stb. 1991/703, most recent revision by Act of 1993, December 16, Stb. 1993/650.

Activities on sites

On these sites, there were 611 activities run in 1999, 15 of them new.

Figure 15

Number of activities per site



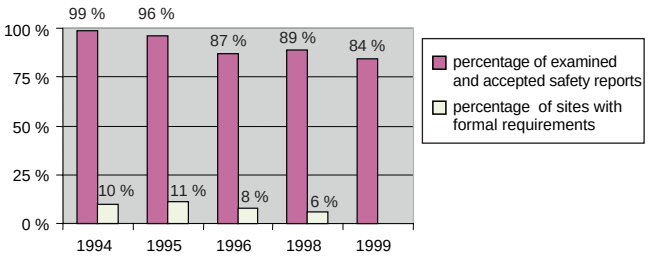
The number of activities per site decreased over the two reporting periods, and in particular over the period 1995-1996. The ratio activities divided by sites remain however the highest in the European Union.

Safety reports

129 safety reports have been received by competent authorities and another five have been received in draft. 124 safety reports include internal emergency plans. 109 safety reports were inspected.

Figure 16

Accepted safety reports and sites with formal requirements



The percentage of examined and accepted safety reports decreased over the two reporting periods, as well as the percentage of sites with formal requirements.

External emergency plan

103 sites have an external emergency plan.

Information to the public

In 80 cases, the public was informed about the risks at the location. In seven cases the permitting authorities have issued notices based on the information in the safety report.

Notification of accidents

During the reporting period three accidents were notified to the MARS database.

Observations

The implementation of the Seveso II directive has been used as an opportunity to deal with major hazards in a more integrated way. As such the main regulation BRZO 1999, is an integrated decree based on four acts and signed by three ministers. The three inspectorates involved work closely together with respect to the assessment of the safety reports and site inspections. They are expected to give their combined verdict about the acceptability of the risks as shown in the report. This verdict is public.

To facilitate a smooth implementation, the following actions were undertaken: the inspectorates were allowed to hire more staff, a guidance for inspectorates was written which describes the integrated approach, the inspectorates received training, intensive discussions with industry, workers and inspectorates resulted in a consensus document: 'Report on information requirements major accidents decree 1999' which is used as an interpretation of the regulation. The biggest challenge will be to deal with the large number of safety reports that are expected to be admitted before February 2001. Finally Ministries are working on a Decree which will deal with major hazards in transport establishments in a Seveso II way.

4.2.11. *Austria*

General remarks

Austria entered into the European Union in 1995. It had already implemented relevant parts of the Seveso I Directive by a 'Major Accident ordinance' in 1991, this being an addendum to the Trade and Industrial Code which is the main law for the permit system of industrial installations. In contrast to other countries

the term 'site' (or 'establishment' as now defined in the Seveso II Directive) did exist in Austrian legislation whereas the terms 'installation' or 'activity' were not used uniformly by various authorities and were not legally defined before the Seveso II transposition (see below). The legal framework remained as it was for the previous reporting period.

Main national laws

Ordinance concerning major accidents of 28 November 1991 ([1]), based upon the Trade and Industrial Code ([2]).

Ordinance concerning information on industrial accidents of 25 May 1994 ([3]), based on the Law concerning information on the environment ([4]).

Competent authorities

Federal Ministry of Economic Affairs

Federal Ministry of Environmental Affairs

Sites/Activities covered by Article 5 (82/501/EEC)

The total number of sites covered by Article 5 in Austria was 140 by the end of 1996 and came down to 133 in 1999 due to capacity reductions in several sites.

Safety reports

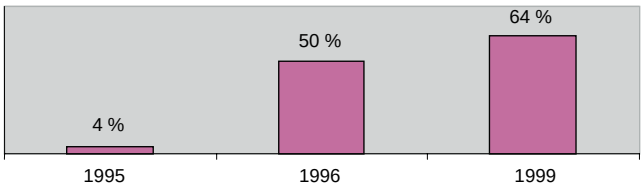
As mentioned in the last reporting period, due to lack of knowledge by the operators about the requirements of Seveso I many safety reports submitted to the authorities were not sufficient and had to be sent back (106 in 1995/1996). Since the quality of the safety reports improved, the number of safety reports submitted to the authorities increased significantly. Another reason for this increase is the fact that an updating of the safety reports is required, especially in case of major changes of the installation.

By the end of 1999, 219 safety reports (of 231 expected overall) have been submitted with a total of 141 judged sufficient. 37 safety reports of 24 sites were sent back for further information or because of insufficient measures.

It is important to note that 231 reports were expected, because many companies set up a safety report per installation or activity. All safety reports shall contain internal emergency plans.

Figure 17

Examined and accepted safety reports



External emergency plan

By the end of 1999, 23 external emergency plans were reported to be at hand. This decrease, compared with the figures of the period before, was caused by the Seveso II transposition announced to be pending for nearly two years and the competencies for the drafting of external emergency plans were not clarified.

Inspections

73 inspections as referred to in Article 7(2) have been reported in 1995. Some of those inspections are repeated yearly, most of them refer to the current national obligation to inspect in a three-year interval. In 1996 altogether 78 sites had been inspected. 61 inspections are reported to have been carried out between 1996 and 1999. Some of them are repeated yearly, mostly the intervals refer to the current national obligation to inspect in a three year − interval. Altogether 50 sites were inspected in 1999.

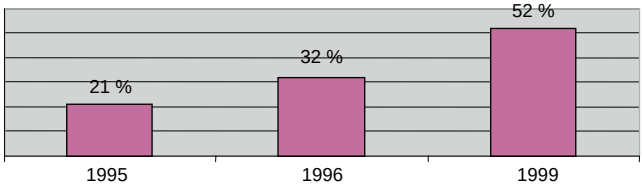
Information to the public

Article 8 has been implemented in Austria by separate legislation, it is the 'Major Accident Information Ordinance'. For 69 sites, information to the public was reported to exist.

([1]) BGBl. No 593/1991.
([2]) BGBl. No 50/1974 in the version of supplementary law BGBl. No 399/1988.
([3]) BGBl. No 391/1994.
([4]) BGBl. No 495/1993.

Figure 18

Sites that issued information to the public



The percentage of sites that issued information to the public increased over the two reporting periods and we expect this percentage to increase again in the frame of the Seveso II Directive.

Notification of accidents

It has to be mentioned that the Austrian contact point for reporting was only installed in 1997. Since its installation, three major accidents were reported to the Commission.

Observations

The Austrian federal system still make it difficult to collect data efficiently on a yearly basis. The whole reporting system is relatively new and will be improved by establishing single contact points in the provinces.

The origin of the Seveso legislation in Austria dates back well before accession to the European Union, and the responsibility is spread amongst various authorities. The implementation of the Seveso II Directive is seen as a chance to make the legislative framework more coherent.

4.2.12. *Portugal*

Main national laws

Decree-Law No 204/93 of 3 June 1993 (Diário da República No. 129 I-A). This law implements the Seveso Directive in its amended version (Directives 87/216/EEC and 88/610/EEC).

Competent authority

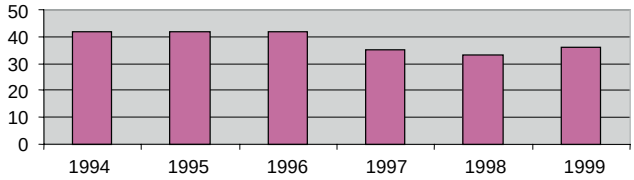
Technical Authority for Major Industrial Hazards (ATRIG). This is an interministerial body chaired by the Director General for the Environment from the Portuguese Ministry for the Environment, and based at the Directorate-General for the Environment.

Sites covered by Article 5 (82/501/EEC)

In Portugal, 36 sites were covered by Article 5, three of them being newly built, by the end of 1999. From the 36 sites covered by Article 5, only one was new.

Figure 19

Number of sites



The decrease in the number of sites covered by Article 5 was foreseen in the previous report, due to substitution of substances in process industries such as glass and pulp and paper, and LPG being replaced by natural gas, as well as by the reduction of inventories in some cases.

Activities on sites

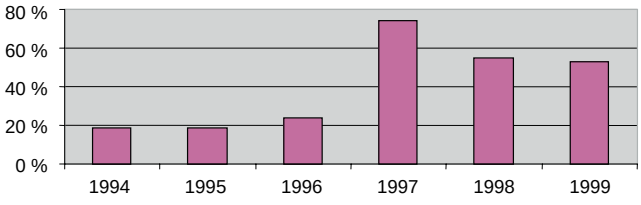
In Portugal, the Seveso I directive is applied to the whole area of an establishment and not to activities considered individually. The operator of the site needs to submit only one safety report per site, independent of the number of activities run on it. Therefore, there are no figures available for the activities.

Safety reports

36 safety reports have already been submitted. All safety reports include an internal emergency plan. In 97, 35 safety reports were examined by the ATRIG (National Competent Authority) leading in 26 cases to formal requirements or legal action by the competent authorities. In 98, 33 safety reports were examined by the ATRIG (National Competent Authority) leading in 18 cases to formal requirements or legal action by the competent authorities. In 99, 34 safety reports were examined by the ATRIG (National Competent Authority) leading in 18 cases to formal requirements or legal action by the competent authorities. There were three new safety reports in 1999, but two of them were of existing establishments, newly covered.

Figure 20

Percentage of sites with formal requirements

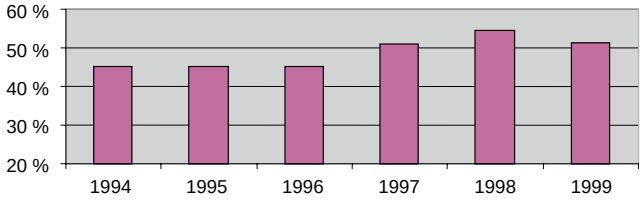


External emergency plan

At the end of 1999, 18 external emergency plans were available.

Figure 21

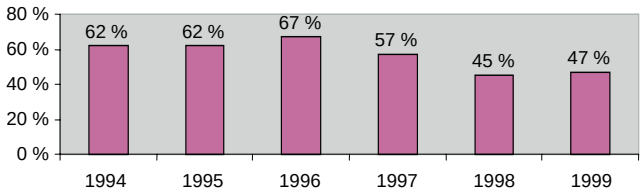
Percentage of sites with external emergency plans



Inspections

Figure 22

Inspected sites



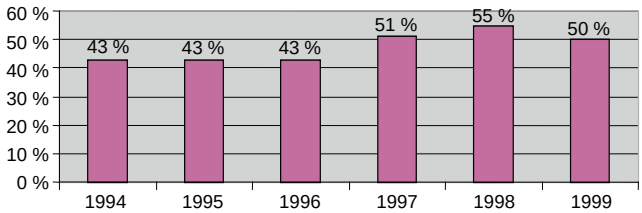
The percentage of sites subject to inspection decreased over this reporting period and this is a matter of concern. As the Seveso II requirements related to inspection are straightforward, improvement in this area is expected.

Information to the public

18 sites have issued information to the public, so the situation has slightly improved since the last reporting period but the information to the public is a point that needs to be improved in the frame of the Seveso II Directive.

Figure 23

Sites that issued info to the public



Notification of accidents

Three major accidents occurred during the reporting period and the corresponding information has been included in the MARS Data Base.

4.2.13. *Finland*

General remarks

Finland has been a Member State in the European Union since the 1st of January 1995. It implemented the Seveso Directive into Finnish legislation before membership as part of the EEA agreement. The implementation was carried out by amending the legislation concerning chemicals handling, the legislation concerning fire and rescue services and the legislation concerning occupational safety The central authority supervising the compliance with the regulations concerning prevention of major accident hazards has been the Safety Technology Authority of Finland (TUKES). Regulations concerning emergency preparedness and response have been enforced by the local fire and rescue services. Occupational safety authorities (labour inspectors) have been supervising the compliance of regulations concerning the safety of employees.

Operators of the major accident hazard sites were required to apply a licence from TUKES at the planning stage. The application covered major part of the information mentioned in paragraphs a and b of Article 5(1) of the Directive. In addition to that, the application contained more detailed technical descriptions of the establishment and a hazard assessment of the planned activity. Assessment included scenarios for typical and worst case accidents. Concerning an establishment that qualify the threshold quantities meant in Article 5(1) an operator was obliged to supplement the licence application by compiling a systematic safety report that handled in detail the possible hazard sources and the consequences of accidents inside and outside the site. Additionally, the safety report had to describe how the prevention of accidents and mitigation of their consequences were taken care of in the establishment. Furthermore an operator had to notify the amendments in installations to TUKES. TUKES, accompanied by the local authorities, carried out a commissioning inspection of a new or amended establishment before it was allowed to start to run.

When the provisions concerning the safety report came into force, the existing installations were obliged to compile a separate safety report by the 1st of September 1995. The safety reports were then inspected and their conclusions assessed by TUKES as a separate procedure.

An operator of a major accident hazard site was obliged to compile an internal emergency plan and deliver it and information needed for external emergency plan to local fire and rescue authorities, who were responsible for compiling the external plans. As provided in the Directive the operator had to issue information to the public also according to the Finnish regulations. These obligations were in force since the 1st of September 1995.

The Seveso II Directive

Major part of The Seveso II Directive was transposed into Finnish legislation by amending certain regulations concerning the safety of chemicals and issuing the Decree on the Industrial Handling and Storage of Dangerous Chemicals. The articles concerning land use planning and external emergency plans were transposed as part of other relevant legislation. Also the occupational safety regulations were amended.

The Decree on the Industrial Handling and Storage of Dangerous Chemicals and the amendments of other chemical regulations connected to it came into force in the 1st of February 1999. The main responsibility for the legislation in concern lies on the Ministry of Trade and Industry. In Finland the legislation covers even small scale industrial handling and storage of dangerous chemicals. The main responsibility concerning the practical enforcement belongs to TUKES with the exception where small scale handling and storage are supervised by the local authorities. The practical enforcement of the new legislation started right after when it came into force. During the period when the Directive and the Finnish legislation were prepared, TUKES disseminated information about the new obligations to the industry and the authorities concerned in guidelines and publications as well as on its web site. TUKES' personnel gave also numerous amounts of lectures about the subject in various training courses and seminars.

The Ministry of the Environment is responsible for the legislation on land use planning (in force 1 January 2000) and respectively the Ministry of the Interior for emergency planning (in force 15 September 1999) and the Ministry of Social Affairs and Health for the legislation on safety of employees (in force 23 September 1999).

As regards the establishments covered by the Seveso II Directive, they are — according to renewed regulations — required to apply for a license prior to commencement of construction. TUKES undertakes the commissioning inspection prior to the commencement of operation. An establishment is similarly required to apply for a license and be inspected before start-up in a case of an extensive modification and expansion. Whenever there are minor, nevertheless significant, changes at a plant, an operator has to send TUKES a notification. When the license application is being handled, TUKES asks the opinions of the local rescue authorities as well as regional occupational safety and regional environment authorities. For the public is also reserved right to express their opinions concerning the application.

All the existing Seveso sites had already been granted a license and inspected during earlier legislation and TUKES was pretty well familiar with their activities.

In Finland Seveso sites are inspected periodically according to a programme compiled by TUKES. The upper tier establishments are to be inspected annually and the lower tier establishments every third year. The above-mentioned authorities are reserved right to comment the programme and they normally attend the inspections. During 1999 the establishments were identified and the inspection programme was executed first time.

The lower tier establishments are obliged to draw up a document setting out their major accident prevention policy. They also have to appoint a person who shall be responsible for seeing that their policy is followed and maintained. The existing establishments had to fulfil this obligation until 1 July 2000.

Both the lower tier and the upper tier establishments have to employ a person (or several persons in a case of big establishment) who knows the legislation and regulations concerning chemicals (an appointed supervisor). Before appointment, a supervisor has to pass an examination arranged by TUKES.

The upper tier establishments are obliged to produce a safety report covering, among other things, a description of their safety management system. A new establishment has to send a safety report in adequate time prior to the start of operations. Existing establishments have the deadlines of 1 February 2001 and 1 February 2002 – depending on their situation

in respect of earlier legislation — to send their reports to TUKES. When assessing the reports TUKES asks the opinions of the other authorities concerned, too. The safety report and the relevant list of dangerous chemicals have to be available for public examination preferably at the plant.

The upper tier establishments have to inform the local residents and communities about any possible major accident, which might affect them. Existing establishments have to deliver a safety circular after having produced a safety report.

Both the lower tier and upper tier establishments have to draw an internal emergency plan and send it to TUKES for review. For existing establishments apply same deadlines as the safety reports.

In Finland the local chief fire officer is responsible for drawing up an external emergency plan that is based on the information received from the establishment's safety report and TUKES' comments on it.

In the case where an accident occurs at an establishment, an operator is obliged by law to inform TUKES at the first opportunity. When necessary TUKES investigates the accident and takes appropriate actions based on it.

Main national laws

Decree on the industrial handling and storage of dangerous chemicals (682/90, amendment 703/92)

Decree on liquefied petroleum gas (711/93)

Decree on natural gas (1058/93)

Decree on explosives (473/93)

Decision of the Ministry of the Interior on emergency preparedness for chemical accidents (7/94)

Council of State Decision on prevention of major accident hazards caused by chemicals (1705/91)

The first decree is based on the Chemicals Act (744/89) and the Act on Explosive Substances (263/53). Decrees 2-4 are based on the Act on Explosive Substances alone. The Decision of the Ministry of the Interior is issued based on the Act on Fire and Rescue Services (559/75). The Council of State Decision has the Act on Occupational Safety (299/58) as its base.

Competent authorities

The Safety Technology Authority of Finland (TUKES) is responsible for enforcing the decrees 1-5. TUKES is working under the Ministry of Trade and Industry.

As regards the land use planning (6), it is enforced by the local planning authorities in cooperation with the Regional Environment Centres. The Ministry of the Environment supervises these authorities. TUKES is the competent authority that is consulted in the case of a Seveso site.

The Decision of the Ministry of the Interior (7) is enforced by the local fire and rescue authorities under the guidance of the Ministry.

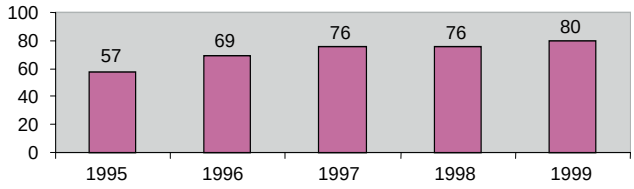
The Ministry of Social Affairs and Health with its regional organisation is responsible for the supervision of the Government Decision (8).

Sites covered by Article 5 (82/501/EEC)

At the end of the year 1998 the number of sites covered by Article 5 was 76.

Figure 24

Number of sites



The data provided for 1999 and 1998 are not fully comparable due to the entry into force of the Seveso II provisions in Finland in 1999. Nevertheless, the figure show an important increase of the number of Seveso sites, mainly between 1995 and 1997.

Activities on sites

Due to the legislation in Finland and different possible interpretation of the definition of 'activity', an exact number can not be given.

Safety reports

The Seveso I Directive

By the end of 1998 the Safety Technology Authority received 76 safety reports from Seveso I

establishments. Additional 22 safety reports were received from other installations based on Finnish national legislation.

The Safety Technology Authority requested supplementary information from 30 sites and set formal requirement for improvements to one site as a result of examination of the safety reports.

The Safety Technology Authority judged 76 safety reports sufficient as regards the meeting of obligations referred to in Article 7 of Seveso I. The number of safety reports that include internal emergency plans has not been provided by the Finish Authorities.

The Seveso II Directive

By the end of the year 1999 total number of establishments which have submitted safety reports, as required under Article 9 of the Seveso II Directive was two. By the end of the year 1999 total number of establishments who had submitted an internal emergency plan as required under Article 11 of the Seveso II Directive was one. The plan in question had been examined by TUKES and judged to be sufficient.

External emergency plans

According to the information from the local authorities 36 sites had an external emergency plan. However, this low number probably reflects failures in reporting rather than in the preparation of emergency plans.

Inspections

Seveso I Directive

All Seveso I sites had been inspected in connection with the license procedure when establishing a new installation or modifying an existing establishment.

Seveso II Directive

All the upper tier establishments (80) were inspected for the first time in accordance with the procedure laid down in the Article 18 of the Directive. In addition to that TUKES carried out an inspection at 67 lower tier establishments.

Information to the public

No information available.

Notification of accidents

In Finland there had happened two major accidents fulfilling the criteria in the Seveso I Directive (one in 1996 and the other in 1998).

During 1999 in Finland occurred two major accidents fulfilling the criteria in the Seveso II Directive.

4.2.14. *Sweden*

General remarks

There are a number of regulations implementing the Directive. Authorities at the local and regional level are responsible for the supervision of these regulations. The Authorities have not found it obvious how to judge whether the Directive covers a site or not. These problems will be solved once the Directive 96/82/EC will be transposed into national regulation. A reporting system at national level is now in the project phase and this will increase the quality of the reporting figures.

For the reporting period 1997-1999, the Swedish Authorities have not provided updated data.

Main national laws and Competent Authorities

Arbetarskyddsstyrelsens kungörelse med föreskrifter om storskalig kemikaliehantering, AFS 1989:6 ([1]) (Regulation of the National Board of Occupational Safety and Health on use of chemicals in large scale) in force from 1 January 1991.

Competent Authority: Arbetarskyddsstyrelsen (National Board of Occupational Safety and Health).

Kungörelse med föreskrifter om skydd av den yttre miljön vid storolyckor vid industriell kemikaliehantering, SNFS 1994:1, MS:71 ([2]) (Regulation of the Swedish Environmental Protection Agency on protection of the environment in the case of major accidents in industrial use of chemicals) in force from 25 May 1994.

Competent Authority: Statens Naturvårdsverk (Swedish Environmental Protection Agency).

Lagen om brandfarliga och explosiva varor, SFS 1988:868 ([3]) (Act on Flammable and Explosive products) in force from 1 July 1989 and Förordningen om brandfarliga och explosiva varor, SFS 1988:1145 ([4]) (Ordinance on Flammable and Explosive products) in force from 1 July 1989.

([1]) ISBN 91-7930-094-4, ISSN 0348-2138.
([2]) ISSN 0374-5301.
([3]) ISSN 0346-5845.
([4]) ISSN 0346-5845.

Competent Authority: Sprängämnesinspektionen (National Inspectorate of Explosives and Flammables).

Räddningstjänstlagen, SFS 1986:1102 ([1]) (Rescue Services Act) in force from 1 January 1987, Räddningstjänstförordningen, SFS 1986:1107 ([2]) (Rescue Services Ordinance) in force from 1 January 1987 and Statens Räddningsverks föreskrifter om informationsskyldighet i samband med kemikaliehantering, SRVFS 1994:1 ([3]) (Regulation of the Swedish Rescue Services Agency on information obligations in connection with use of chemicals) in force from 1 June 1994.

Competent Authority: Statens Räddningsverk (Swedish Rescue Services Agency).

The Swedish Authorities have provided no updated data for the reporting period 1997-1999.

4.2.15. *United Kingdom*

Main National Laws

The European Communities Act 1972: This extends the powers of the Health and Safety Executive (HSE) to enforce requirements for environmental protection for the purpose of the CIMAH Regulations.

Health and Safety at Work Etc. Act 1974: This is the main law relating to health and safety risks arising from work activities and it gives powers to HSE inspectors (to inspect, examine documents, take photographs, take statements, serve improvement and prohibition notices and bring prosecutions) and makes it a criminal offence for employers to breach the Act or any regulations made under it.

The Control of Industrial Major Accident Hazards Regulations 1984 (CIMAH): This is statutory instrument (S.I.) No 1984/1902 and is the main law implementing the Council Directive 82/501/EEC.

CIMAH has been amended three times through the following:

— The Control of Industrial Major Accident, Hazards (Amendment) Regulations 1988: (No 1988/1462): This implemented the first amendment of the Council Directive 82/501/EEC.

— The Control of Industrial Major Accident Hazards (Amendment) Regulations 1990: (No 1990/2325): This implemented the second amendment of the Council Directive 82/501/EEC.

— The Control of Industrial Major Accident Hazards (Amendment) Regulations 1994: (No 1994/118): This removed the exclusion in the principal regulations for sites operated by a waste disposal authority.

Competent Authorities

The Health and Safety Executive (HSE) enforce the regulations at all top tier sites and all lower tier sites that are industrial activities. Local authorities enforce at a small number of lower tier sites in the retail, wholesale and commercial sector.

Northern Ireland has its own regulations but these are identical to the British CIMAH regulations.

Sites covered by Article 5 (82/501/EEC)

The number of sites covered by Article 5 had increased over the last reporting period from 303 in the year 1994 to 308 in the year 1996; it increased again over the present reporting period and 320 top tier CIMAH sites were recorded by the mid 1999.

Activities on sites

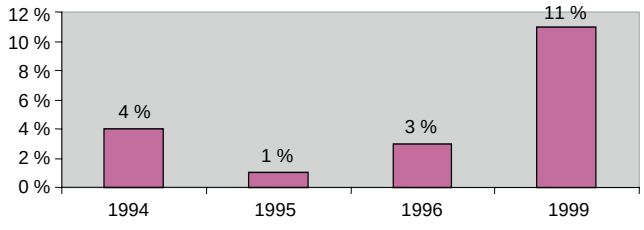
No data related to activities have been provided.

Safety reports

508 safety reports have been submitted to competent authorities; the number of expected safety reports has not been provided.

Figure 25

Number of sites with formal requirements



([1]) ISSN 0346-5845.
([2]) ISSN 0346-5845.
([3]) ISSN 0283-6165.

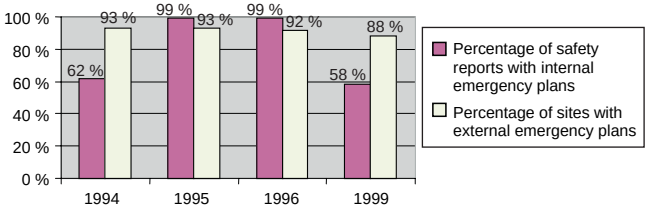
The number of sites that have had formal requests or legal action taken by the Competent Authorities resulting from examination of the safety report in respect of obligations under Article 7(1) increased in a significant way over the last reporting period (1997-1999).

The number of safety reports including internal emergency plans had increased from 300 to 488 during the last reporting period. For 1999, 293 sites had an emergency plans.

35 reports have been subject to improvement notices.

Figure 26

Sites with internal and external emergency plans



The figure shows that the percentage of safety reports with internal emergency plans tended to decrease over the last reporting period, while the percentage of sites with external emergency plans remained stable.

External emergency plan

283 sites have an external emergency plan.

Inspections

No information has been provided.

Information to the public

255 sites have issued information to the public as required by Article 8.

Notification of accidents

During the reporting period 13 accidents occurred, all of which were reported to the MARS database.

Observations

The Seveso Directive has been successfully implemented in the United Kingdom. Both companies and local authorities are now familiar with the CIMAH Regulations and this will facilitate the introduction of the new COMAH Regulations to implement Seveso II. There are now better links between HSE and local authorities and authorities have learnt from our experience of CIMAH in the assessment of safety reports. A robust set of assessment criteria for the new COMAH safety reports has been derived from the experience of assessing CIMAH reports.

4.2.16. *Norway*

Authorities

The regulations are administered on the central level by four different public authorities:

— Directorate for Fire and Explosion Prevention,

— Directorate for Labour Inspection,

— Norwegian Pollution Control Authority, and

— Industrial Safety and Security Organisation.

A coordinating forum headed by the Directorate for Fire and Explosion Prevention has been established.

Sites covered by Article 5 (82/501/EEC)

In Norway, 25 sites were covered by Article 5, two of them being newly built.

Activities on sites

In Norway, there are no distinctions between sites and activities.

Safety reports

25 safety reports have already been submitted. All safety reports include an internal emergency plan and have been examined and judged as sufficient by the National Competent Authorities.

Formal action/legal requirements

Most of the sites have had questions and follow-up requirements from the Competent Authorities during the examination of the safety reports. No items are now outstanding.

External emergency plan

There are external emergency plans in all municipalities where hazardous installations are located. So, 25 external emergency plans have been drawn up. Such plans are the responsibility of the local authorities within each police district and are prepared under the leadership of the chief of police.

Inspections

All sites (25) have been subject to inspections during the reporting period.

Information to the public

All sites (25) have issued information to the public during the reporting period.

5. COMMITTEE OF COMPETENT AUTHORITIES (CCA)

A coherent implementation and consistent application of the provisions of the Seveso Directive throughout the Community necessitates a close cooperation of the Competent Authorities of all Member States and the European Commission.

The Directive obliges the Member States and the Commission to exchange information on the experience acquired and the functioning of the Directive.

The forum for such an administrative cooperation is the so-called Committee of Competent Authorities (CCA) which consists of representatives of the Member States and the Commission services. The CCA is chaired by a representative of the Commission and meets once in every Council presidency, i.e. every six months. The work of the CCA is based upon consensus.

From 1995 on meetings were organised in the Member State that held the Council Presidency. During the reporting period 1997-1999, six meeting have been held. (1/1997 — The Hague, Netherlands; 2/1997 — Mondorf-Les-Bains, Luxembourg; 1/1998 — Steyning, United Kingdom; 2/1998 — Graz, Austria; 1/1999 — Munich, Germany; 2/1999 — Turku, Finland).

These meetings were held over two days: the first day was the 'meeting proper' and the second day was assigned to the host Member State to demonstrate how it implements the Seveso Directive. This format has proved very successful for reasons including the following:

— It submits the Member State concerned to a 'peer review' of its system which is extremely beneficial in ensuring good implementation of the legislation.

— It allows Member States to learn from each other, and this is known to be particularly helpful to those Member States with less well-developed approaches.

With the entry into force of the Seveso II Directive, it has been decided to reinforce the system and to add a one-day seminar prior to the meeting in order to treat more deeply a theme linked to Seveso. For the first Seveso II meeting, discussions with experts from the insurance industry were carried out in Munich, and the first one-day seminar on 'Software Tools Relevant to the Implementation of the Seveso II Directive' was organised in Turku.

The CCA discusses all issues concerning the implementation of the Seveso Directive and gives guidance as to its practical application. In this context, the seminars and the discussions are a good platform to discuss possible problem arising from the understanding or practical application from the Directive.

When fulfilling the tasks referred to under the Comitology provisions of the Directive (Articles 15 and 16), the CCA acts as a Regulatory Committee (type IIIa).

6. OTHER COMMISSION ACTIVITIES

6.1. Major-Accident Hazards Bureau (MAHB)

The Major Accident Hazards Bureau (MAHB) was officially established by the European Commission in February 1996 in Directorate-General JOINT RESEARCH CENTRE with a remit to offer scientific and technical support to other services of the Commission (principally Directorate-General ENVIRONMENT) in the successful implementation of European Union policy on the control of major industrial hazards and the prevention and mitigation of major accidents, in particular in connection with the Seveso Directives [1] (see: http://mahbsrv.jrc.it/). This includes the following tasks:

managing the Major Accident Reporting System (MARS) (see chapter 6.2), including

[1] N. Mitchison, C. Kirchsteiger, The 'Seveso II' Directive and the Major Accident Hazards Bureau, Environmental Law Newsletter, No 1, Environmental Law Network International, Freiburg, 1998, p. 28-31.

— verification and input of information,

— extracting information and lessons learnt from the accidents and incidents reported,

— disseminating information to National Authorities, industry and other interested parties.

Managing the Community Documentation Centre on Industrial Risk (CDCIR) (see chapter 6.4), including:

— acquisition of relevant public-domain material, both published and unpublished;

— preparation of an occasional Bulletin with details and summaries of material acquired;

— making non-copyright material available to authorities and other parties

preparing reports on the implementation of the Directive;

providing technical and scientific support for Technical Working Groups studying various aspects of the control of major accident hazards (see chapter 6.5).

undertaking specific tasks of information dissemination, including organising seminars and workshops with the Competent Authorities (with industrial participation where appropriate) on relevant topics in the areas of industrial risk, risk management, major hazard regulation and licensing, and emergency response to industrial accidents (see chapter 6.5).

6.2. **Accidents reported to the MARS Database**

6.2.1. *Background*

Since the implementation of the Seveso Directive, the Competent Authorities of all Member States are required to notify to the Commission all major industrial accidents involving dangerous substances. For this purpose, the Commission set up in 1984 an industrial accident notification scheme, the Major Accident Reporting System (MARS), operated and maintained by the MAHB of the European Commission's Directorate-General Joint Research Centre (DG JRC) in Ispra, Italy. The accidents reported are collected in a register and information system ('MARS database'), and analysed in order to:

— classify the accidents according to various parameters, in particular the substances involved, consequences, and causative factors,

— extract 'lessons learned' to prevent the recurrence of similar accidents and to mitigate their consequences ([1]).

6.2.2. *Changes due to Seveso II*

The Seveso II Directive 96/82/EC which has replaced the original Seveso Directive implied significant MARS-related changes, in particular concerning

— criteria for the notification of an accident to the Commission,

— confidentiality of information submitted,

— information system and exchanges.

Although originally the number of events reported was not very large, there was always a high level of detail, which is sufficient to establish the detailed causes of an accident, both the immediate and the underlying ones. As a result of the new Seveso II Directive, the lowering of the threshold for notification has led to an increased number of events being reported. Also since 1996 the MARS database has been developed for a more open approach to the supply of information to the public, both from the Member States and from the Commission, without violating the confidentiality aspects of the reporting system. The new system still uses the best practice of the old but has advanced beyond a normal reporting system, to more of an information exchange between the competent authorities and the Commission.

6.2.3. *System and Information Structure*

The structure of the MARS database is composed of two reporting forms:

— the 'short report' which is intended for use for immediate notification of an accident, and

([1]) C. Kirchsteiger (ed.): Lessons Learnt from Accidents, Proceedings of European Union Seminar, Linz, Austria, 16-17 October, 1997, EUR 17733 EN (1998).

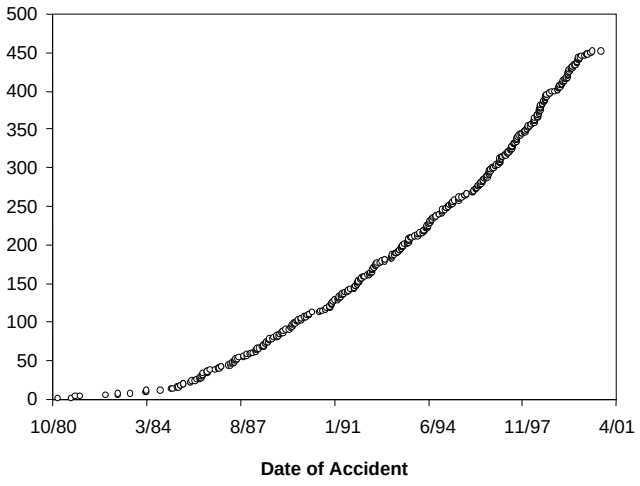
— the 'full report' which is prepared when the accident has been fully investigated, and the causes, the evolution of the accident, and the consequences are fully understood. In certain cases further information comes to light — for example in the course of judicial proceedings — and there is provision for the 'full report' information to be further modified.

The short reports, containing no identifying details, are available on the Internet (http://mahbsrv.jrc.it), in the form of a database search, or can be requested directly from MAHB.

Today, MARS exists as a distributed information network, consisting of 15 local databases on a MS-Windows platform in each Member State of the European Union, and a centralised analysis system at the MAHB that allows complex text retrieval and pattern analysis. Currently the number of records in the database stands in excess of 450, and is constantly being updated (see Figure A).

Figure A

Trend in occurrence of accidents reported to MARS



The number of events reported is — fortunately — not very large, but what makes MARS unusual among accident databases is the high level of detail, which is sufficient to establish the detailed causes of an accident, both the immediate and the underlying ones.

Various analyses on the contents of MARS have been performed, providing a basis for practical recommendations for industry to prevent future accidents. MARS data analysis results are distributed either in the form of open publications (with identifying details removed), as regular summary evaluations of accidents notified for the CCA or as reports on specific data evaluations (e.g. by the Community Documentation Centre on Industrial Risk). Various such requests to perform specific analyses of non-confidential MARS data were received by MAHB in this reporting period from industry, regulatory authorities or research institutions.

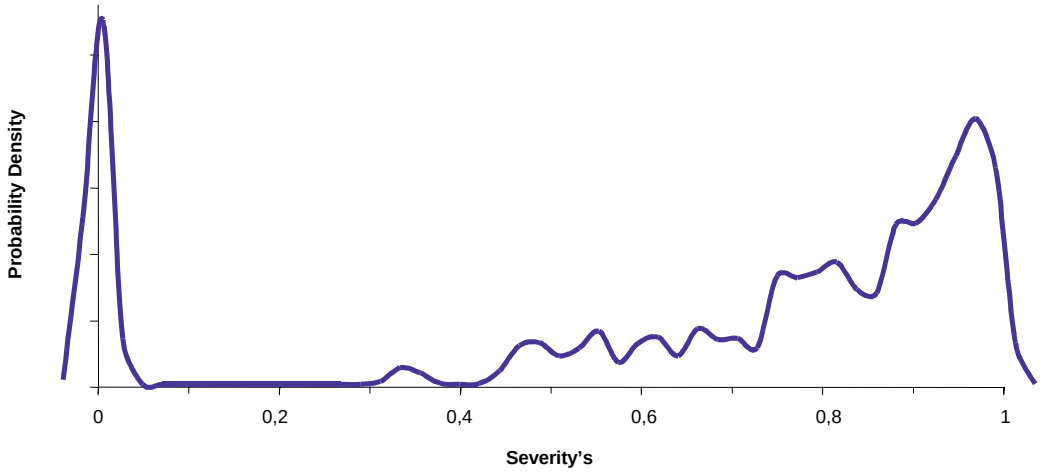
6.2.4. *Characteristics of Accidents*

The severity of all major accidents reported is shown in Figure B (the method to derive these relative severity values is described in [1]):

[1] C. Kirchsteiger, Absolute and Relative Ranking Approaches for Comparing and Communicating Industrial Accidents, Journal of Hazardous Materials, Elsevier Science, Volume 59(1), March 1998, p. 31-54.

Figure B

Severities of accidents reported to MARS

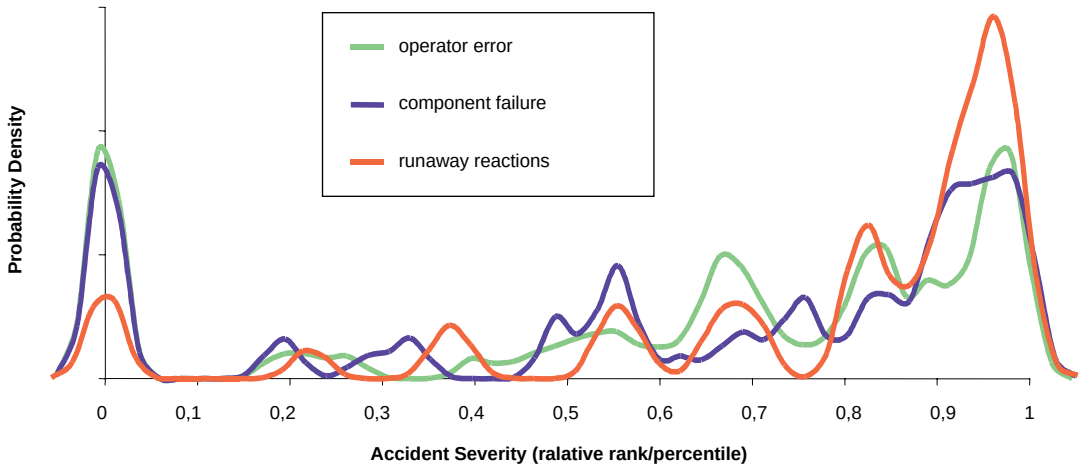


From the left side of this plot it can be seen that there is a high probability of the occurrence of a number of events with very low severity, i.e. a large number of near misses and accident precursors which have been notified to MARS on a voluntary basis ([1]). The right side of the plot shows that there is a fairly high probability that the accidents that do occur in Seveso plants will be more severe, with the number of accidents of middle to low severity occurring rarely.

As a more specific example, we can look at the root cause contributors to the severity to see which has the most weighting under particular circumstances, e.g. direct operator or component failure are the most likely contributors to near misses, whereas an accident of high severity is most likely to occur due to a runaway reaction (see Figure C).

Figure C

Root causes of accidents reported to MARS



([1]) C. Kirchsteiger, Impact of Accident Precursors on Risk Estimates from Industrial Accident Databases, Journal of Loss Prevention in the Process Industries, 10, No 3, Elsevier Science, May 1997, p. 159-167.

These analyses emphasise the continuing need for performing studies on lessons to be learned from accidents, and the importance of a reporting tool like the MARS database ([1]).

6.2.5. *Trends in Accidents and their Characteristics*

'Stakeholders' in the industrial risk management process (public and governmental affairs officials, general public, media, industry, academia) frequently want to get from the European Commission a response to a simple question: 'How Frequent are Major Industrial Accidents in Europe?'

Seveso II requires the Member States to report accidents that fulfil certain criteria to MARS. Member States are, however, not explicitly required to report the number of Seveso plants and their characteristics to the Commission, and only rough estimates of their number are currently known.

The number of major accidents and their detailed characteristics is the only information available on European level. From the data necessary to estimate an event frequency, i.e. number of event occurrences per time period (nominator) and number of opportunities for an event to occur (denominator), only the rate's nominator is known, and it is thus not clear if major accidents from Seveso plants are fairly infrequent events in Europe or not.

Further, besides lack of data on the denominator, the question is which denominator best represents the number of accident opportunities over the large spectrum of industrial establishments covered by Seveso II. 'Seveso plants' vary greatly in size, type of processes, type and quantities of chemical substances stored and produced, operating characteristics, etc. As, so far, there is no information on the characteristics of Seveso plants available, they shall, in a first approximation, be considered as a homogeneous population. The assumption implied is that a dangerous substance in one Seveso plant always has the same opportunity to be accidentally released than does a dangerous substance in another plant. While this approximation is certainly not true and the resulting accident rates certainly not perfect, this seems the only possibility at this moment to derive quantitative statements on the frequency of major accidents from Seveso plants in Europe ([2]).

To forecast the number of major accident occurrences for an individual Seveso plant, we could take the simple average or mean of all past observations, i.e. 419 accidents reported between 1986-1999 ([3]). This gives a hazard rate, λ, as:

$$\lambda = \frac{419 \text{ accidents}}{168 \text{ months} \times N}$$

(N being the number of Seveso plants and T=168 months our observation time). For a N=10 000 ([4]), the major accident rate of a Seveso plant would become $\approx 3 \times 10^{-3}$ a^{-1}, the Mean Time To Failure (MTTF) ≈333a. A number of assumptions were made for this simplistic calculation, such as the estimate of N, and that all Seveso plants are identical.

6.2.6. *Extension of MARS beyond the EU*

For Central and Eastern Europe there has so far been no unified source of reliable information on industrial accidents. The Central and Eastern European countries are accession countries to the EU and will thus soon be required to comply with the environmental legislation and in particular Seveso II.

At the third Meeting of EU Competent Authorities (CCA) in May 2000, the Competent Authorities approved the chemical accident reporting and analysis cooperation between MAHB and OECD. This will mean that by the end of this year the MARS 4.0 tool will be used by both EU and OECD members

([1]) Kirchsteiger, Trends in Accidents, Disasters and Risk Sources in Europe, in: Special Issue of Journal of Loss Prevention in the Process Industries on 'International Trends in Major Accidents and Activities by the European Commission towards Accident Prevention', Volume 12, No 1, Elsevier Science, January 1999, p. 7-17.

([2]) C. Kirchsteiger, How Frequent are Major Industrial Accidents in Europe? Process Safety and Environmental Protection, Institution of Chemical Engineers, TransIChemE, Volume 78, Part B, 2001 (forthcoming).

([3]) Although some countries reported events even from before application of the 'Seveso I Directive' (1982), the completeness of reporting seems to be fairly good from the mid 1980's onwards.

([4]) The number 10 000 Seveso plants in the European Union is a guess. However, from discussions held with the Competent Authorities and from an assessment of the Competent Authorities themselves on the industry costs of complying with the requirements of Seveso II recently distributed and evaluated by CEFIC, it seems as if — in the order of magnitude — about 10 000 Seveso Plants under Seveso II could be a realistic number (CEFIC Safety at Work/Major Hazards Group, Questionnaire relating to industry cost of complying with the requirements of the Seveso II Directive, CEFIC — The European Chemical Industry Council, Brussels, undated).

countries to report industrial accidents in the MARS standard format to MAHB and to exchange accidents information on this basis. Further, it was agreed that a similar cooperation shall be set up between MAHB and the UN-ECE Secretariat with regard to implementation of the UN-ECE Convention on the Transboundary Effects of Industrial Accidents.

MARS will thus provide in the near future a unified industrial accidents database for the whole of Europe, based on both mandatory EU / UN-ECE and voluntary OECD requirements, and an open control system involving industrial operators and Competent Authorities in the Member States as well as the European Commission, OECD and UN-ECE. Similar transnational schemes for the management of industrial risks do not exist elsewhere.

MARS will soon be used across the whole Europe and will provide due to its wide coverage and comprehensive nature an integrated view on the status of and trends in industrial hazards in Europe.

6.3. **Seveso Plant Information Retrieval System (SPIRS)**

The Commission's accident database MARS is now complemented by SPIRS, a distributed database system which was set up in order to provide access to risk related information from major hazardous industrial establishments in Europe for all interested parties.

6.3.1. *Background*

Rational decision-making in the risk assessment and management of major hazards in industrial plants is of paramount importance. Allowance should be made for studying alternative strategies in which continuous and consistent cross-comparison is made. For this purpose, it is important that a common language is developed to estimate and weigh the hazard and risk potential of such plants against each other and judge their acceptability. The new Directive 96/82/EC moves towards such common language in risk assessment and management ([1]).

The geographical component of risk is important, especially when the spatial distribution of cost and benefit factors related to the operation of industrial plants with major hazard potential is quite diverse across the EU or with regard to new Member States in Central/Eastern Europe. The common language for representation of spatially distributed data is geographical maps. In the context of industrial risk management, maps create a visual and thus 'immediate' understanding of the cause/effect relations with regard to hypothetical major accidents on a 'Seveso Plant' site and their effect on the immediate surroundings.

6.3.2. *Features of the System*

By using SPIRS, which is based on the requirements of the Seveso II Directive, it is possible to analyse and make available information about the geographical component of risk in Europe. This will mainly be done by providing a map of all major hazardous industrial establishments in Europe together with information on their basic risk related characteristics. SPIRS will be used to support the authorities in their risk management related decision-making processes. Similar to MARS, the SPIRS tool consists of one central database, located at the MAHB, and local databases for the Competent Authorities of the Member States ([2]).

6.3.3. *Adoption of SPIRS by the Competent Authorities*

At the third CCA meeting in May 2000, the new version SPIRS 2.0 was presented together with the new accident reporting software MARS 4.0 to the Competent Authorities at a special seminar. All delegates present (from the EU Member States, EU accession and EFTA countries, OECD and UN-ECE) recognised the value of such a European database containing the following basic information on Seveso type of establishments:

— geographical location (longitude, latitude),

— name of the establishment,

— name and quantity of qualifying substances on-site according to Seveso II.

All countries expressed their willingness to provide this minimum information to SPIRS. The data will be treated confidentially by the European Commission and the Member States.

([1]) S. Contini, F. Bellezza, M. Christou, C. Kirchsteiger, The Use of Geographic Information Systems in Major Accident Risk Assessment and Management, in: Special Issue of Journal of Hazardous Materials, Volume 78, Nos. 1-3, November 2000, p. 223-246.

([2]) C. Kirchsteiger, H. Gohla, A. Ostuni, Development of a GIS Tool for Monitoring and Evaluating the Risk Potential of 'Seveso Plants' in the EU, Proceedings of the ESREL '99 International Conference on Safety and Reliability, Munich, Germany, Balkema Rotterdam, 13-17 September 1999.

6.3.4. *Current Status of Reporting*

After having been successfully tested by the Competent Authorities, the final versions of the new MARS and SPIRS software tools was distributed to the EU Member States, EU accession and EFTA countries, OECD and UN-ECE countries for use in the context of the EU Seveso Directive, the OECD Chemical Accidents Programme and for the UN-ECE Convention on the Transboundary Effects of Industrial Accidents, in 2000.

So far only sample data has been reported. A total number of 320 records reporting information from: 51 establishments from three provinces of Austria, 66 establishments from two towns in Belgium, 190 establishments from one province in Germany and 13 establishments from one province in Spain. This is about 5 % of the total number of establishments in the EU.

Concerning further developments in the Member States' efforts, a complete set of all French Seveso type of establishments to be reported to MAHB is expected by mid of 2001.

The German authorities have decided to use the tool for their recording of establishments that fall under the requirements of the UN/ECE Convention on the Transboundary Effects of Industrial Accidents, and will report these data to MAHB.

A modified version of the tool is to be used under the JRC's PECO Project on technological hazards for Central and Eastern European countries.

6.4. **Community Documentation Centre on Industrial Risk (CDCIR)**

The objective of the Community Documentation Centre on Industrial Risk (CDCIR) is to create a bibliographic and scientific environment which facilitates exchange of information between the Member States on the control of major hazard industrial activities, and to gain maximum knowledge from the common European effort towards industrial safety.

CDCIR contains only documents which are in the public domain, but includes many documents that are not easily found elsewhere ('grey literature' such as accident reports, codes of practice, recommendations, laws etc.). At the end of 2000, CDCIR contained more than 3000 reviewed documents, issued by governmental institutions, industry and research institutes. These bibliographic data include document-related data fields, e.g. title, original title, year of publication, source, availability, key words and abstract.

MAHB manages the Community Documentation Centre on Industrial Risk (CDCIR), including:

— acquisition of relevant public-domain material, both published and unpublished;

— making non-copyright material available to authorities and other parties;

— providing continued assistance to Directorate-General Envirmonment in the reparation of reports on the implementation of the Directive;

— preparation of a Bulletin on a regular basis with details and summaries of material acquired.

In the reporting period, three such Bulletins have been produced and a total of about 900 requests have been handled at the CDCIR. Most of MAHB's studies performed in this period are based on the CDCIR.

Since early 2001, CDCIR is completely accessible via the MAHB homepage under http://mahbsrv2.jrc.it/cdcir, including the possibility to create user-defined Bulletins for download. For this reason, it is not planned to continue with the production and distribution of hardcopy Bulletins, unless there is a specific request from the CCA.

6.5. **Technical Working Groups; seminars and workshops studies**

6.5.1. *Technical Working Groups*

Technical Working Groups ('TWGs') have been set up by the Commission in certain technical domains connected with the Seveso Directives. In particular, the domains covered include some where the proposed fundamental revision to the Directive modifies or extends the provisions of the current Directive, and where there was therefore felt to be need for guidance to expand on and explain the requirements of the proposed new Directive. These TWGs are in most cases administered jointly by the MAHB and Directorate - General Environment.

During the period concerned, 7 TWGs were in existence or were finalising the suite of guidance documents that accompanied the coming into force of the new Directive.

TWG2, 'Inspection Systems' was revived in order to develop guidance or other assistance aimed at the consistent and effective implementation of Article 18 of the Seveso II Directive within the Member States. During this period a guidance document on 'Inspections' has been published ([1]).

WG3, 'Safety Reports' finished its discussions and published a guidance document ([2]).

TWG4, 'Safety Management Systems' finished its work and published a guidance document ([3]).

TWG5, 'Land Use Planning' was very active and held 4 meetings culminating in the publication of a guidance ([4]).

TWG6, 'Dispensations according to Article 9(6) of Directive 96/82/EC' held three meetings and produced harmonised criteria for the application of Article 9(6) of the Directive. These were formally adopted at the CCA meeting in spring 1998. A guidance document has been published ([5]).

TWG7 'Substances Dangerous to the Environment' held four meetings during the reporting period and consistent with the statement of the Council minutes related to the Seveso II Directive produced recommendations for new qualifying quantities for substances classified as being very toxic or toxic with long term effects for the aquatic environment (risk phrases R50 ,R50/53 and R51/53). At the same time a new named substance was proposed which included the kerosenes, diesels and gasoils into the 'automotive petrol and other petroleum spirits' category along with suitable qualifying quantities. The recommendations of TWG 7 have been published ([6]) and will form part of the proposal for an Amendment to the Directive.

TWG8, 'Carcinogens in the Context of Council Directive 96/82/EC' held four meetings during the reporting period and consistent with the statement of the Council minutes related to the Seveso II Directive produced recommendations for a comprehensive list of substances which can be considered as being potentially carcinogenic for 'single shot' acute exposures. Appropriate qualifying quantities were also proposed and the recommendations of TWG 8 have been published ([7]) and will form part of the proposal for an Amendment to the Directive.

6.5.2. *Seminars and workshops*

These seminars are intended primarily for national authorities, industry and academia concerned with the implementation of the Seveso Directive. The approach to hold these international seminars with a more thematic orientation, comparing national experience in one particular technical domain across several countries, was continued. In addition, a one day technical seminar attached to the Committee of Competent Authorities meetings was started in 1999 where a seminar related to 'Computer Software' was held at the Turku

Three international seminars were held during 1997-1999:

— Linz 1997: Lessons Learnt from Accidents ([8]),

— Rome 1998: Inspection Systems and the Safety Report,

— Athens 1999: Seveso 2000 — Risk Management in the European Union of 2000: the Challenge of Implementing Council Directive 'Seveso II' ([9]).

6.5.3. *Studies*

The following studies and contributions to research activities were carried out by MAHB:

— A review of transmission pipeline accidents involving hazardous substances ([10]);

([1]) G. Papadakis & S. Porter (Eds): Guidance on Inspections as Required by Article 18 of the Council Directive 96/82/EC (Seveso II) EUR 18692 EN (1999).

([2]) G. Papadakis & A. Amendola (Eds.): Guidance on the preparation of a Safety Report to meet the Requirements of Council Directive 96/82/EC (Seveso II), EUR 17690 EN (1997).

([3]) N. Mitchison & S. Porter (Eds.): Guidelines on a Major Accident Prevention Policy and Safety Management System, as required by Council Directive 96/82/EC (Seveso II), EUR 18123 EN (1998).

([4]) M.D. Christou & S. Porter (Eds.): Guidance on Land Use Planning as Required by Council Directive 96/82/EC (Seveso II), EUR 18695 EN (1999).

([5]) J. Wettig & N. Mitchison (Eds.): Explanations and Guidelines for the Application of the Dispensation Rule of Article 9, paragraph 6 of the Council Directive 96/82/EC (Seveso II), EUR 18124 (1999).

([6]) M.D. Christou (Ed): Substances Dangerous for the Environment in the Context of Council Directive 96/82/EC, Report by Technical Working Group 7, EUR 19651 EN (2000).

([7]) M.D. Christou (Ed). Carcinogens in the Context of Council Directive 96/82/EC, Report by Technical Working Group 8, EUR 19650 EN (2000).

([8]) C. Kirchsteiger (Ed). Lessons Learnt from Accidents, EUR 17733 EN (1997).

([9]) G.A. Papadakis (Ed). Seveso 2000 — Risk Management in the European Union of 2000: the Challenge of Implementing Council Directive 'Seveso II', EUR 19664 EN (2001).

([10]) G.A. Papadakis, Review of Transmission Pipeline Accidents involving Hazardous Substances, EUR 18122 EN 1999.

— A regulatory benchmark for a pipeline safety instrument, an overview of responses from Member States Competent Authorities;

— Contribution to the Lupacs, EU shared cost project aimed at using multi-criteria analysis for land-use planning;

— Contribution to the Assurance, EU shared cost project, a benchmark exercise aimed at quantifying the uncertainties associated with quantitative risk analysis for the chemical process industry;

— Contribution to the Smmarten, EU shared cost project aimed at providing an effective safety management system for small and medium sized enterprises (SMEs);

— Contribution to the Harsnet, EU thematic network on chemical hazard analysis for batch reactions in the process industry.

7. SUMMARY

The information provided by the Member States highlighted significant weaknesses in the current reporting system. Even if these weaknesses, listed in section 7(1) prevent from drawing straightforward conclusions, some specific requirements of the Directive have been more deeply analysed in section 7(2).

The analysis shows in particular that significant progresses have been achieved in the field of the information to the public and in the quality of the safety reports but the current situation will still have to be improved in the framework of the Seveso II Directive. Efforts are still needed in the fields of internal and external emergency plans.

7.1. Weakness of the current reporting system

Even if all Member States, with the exception of Sweden have provided some data during this reporting period, there are many missing data, thus making it difficult to compare the situation in different Member States.

In particular, many Member States have not provided answers on an annual basis but have often given only figures related to the situation at the end of 1999. The answer to some questions (number of inspections for example) becomes then ambiguous as it is not clear if the answer is related to a three years period or to a one year period. Additional requests for information sent to Member States have not always allowed a clarification of the situation.

Moreover, the numbers of sites are not comparable within the EU as Member States continue to have different approaches. For example, the large number of sites in Germany is primarily due to the fact that each installation within an industrial establishment is counted as a site whereas the majority of Member States defines an establishment that consists of different installations as *one site*. For the future it should be noted that the Seveso II Directive has introduced an unequivocal system based on *establishments*.

The questionnaire was also focused on quantitative aspects like number of sites, number of safety reports received etc. Even if the numerical data give already valuable information, it would be ingenious to draw clear conclusions about the application of the Seveso Directive only on the basis of the answers provided to the questionnaire without any qualitative information (quality of the information to the public, of the safety reports…).

Even if some successful attempts have been already made in the field of inspection (Mutual Joint Visit Programme), and if getting reliable qualitative information is a difficult challenge, it seems necessary to do so in the framework of the Seveso II directive in order to ensure a homogeneous application of the Directive.

7.2. Main outcomes

Despite these difficulties, the information provided by the Member States over the two reporting periods allows to draw some interesting trends. During the reporting period 1997-1999, the practical implementation and enforcement of the Seveso Directive improved significantly in most Member States in two critical fields, information to the public and external emergency plans.

Nevertheless, in other fields like inspection or safety reports no real improvement have been detected. It is expected that the framework of the Seveso II Directive and of the national transposition measures will allow significant enhancement in all these fields.

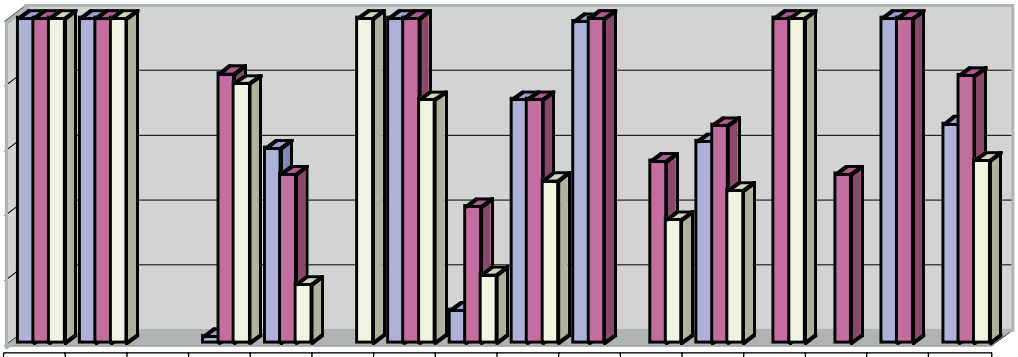
7.2.1. *Inspection system*

The Seveso I Directive (Article 7(2)) requests the Competent Authorities to organise inspections, but there is no clear requirement on the periodicity of these inspections. Maybe for this reason, it seems that no clear progress have been achieved in this field. In this context it is important to add that Germany has provided no data, that France has not provided data for the first reporting period (1994-1996) and that Netherlands and the United Kingdom have not provided any data for the present reporting period (1997-1999).

The Seveso II Directive (Article 18) has clarified the requirements related to the inspection system and we expect that the next reporting period will show a clear improvement in this field.

Figure 27

Sites subject to inspection ([1])



	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	100 %	100 %		2 %	60 %		100 %	10 %	75 %	99 %		62 %			100 %	67 %
1996	100 %	100 %		83 %	52 %		100 %	42 %	75 %	100 %	56 %	67 %	100 %	52 %	100 %	82 %
1999	100 %	100 %		80 %	18 %	100 %	75 %	21 %	50 %		38 %	47 %	100 %			56 %

7.2.2. *Information to the public*

The criteria for considering that a site has issued information to the public at suited time intervals were perhaps ambiguous in the Directive, thus leading to different national requirements and to different way of understanding the question.

The figures provided show that the percentage of sites that have issued information to the public increased in a significant way in most Member States over the two reporting periods. Nevertheless, the average percentage (61 %) reached in 1999 seems not satisfactory.

As a matter of fact, the responsibility for informing in practice the public and the way to check that the information has been correctly received and understood are very different in the different Member States.

In many Member States, the information to the public is issued by the local or regional authorities. In others Member States the operator is in charge of informing the public.

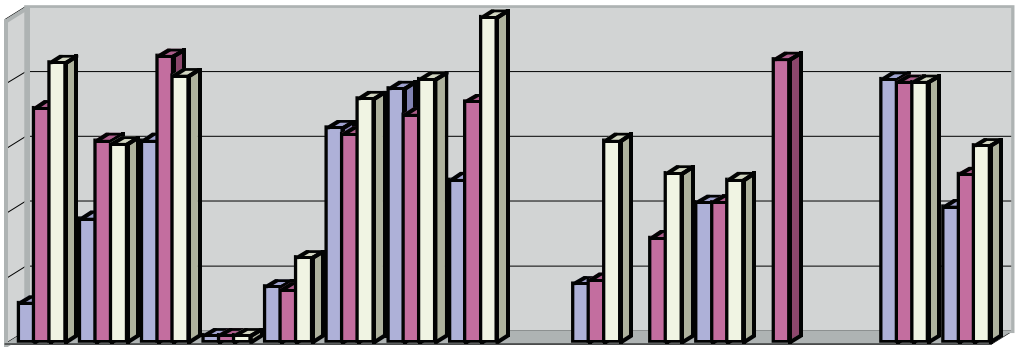
Therefore, comparison between Member States can only give a very rough indication of the situation.

As the requirements contained in the Seveso II Directive (Article 13) are much clearer, the situation is expected to improve.

([1]) Note: average value computed on the basis of the Member States that provided data for 1994, 1996 and 1999. For this table the data provided by Belgium, Denmark, Greece, Spain, Ireland, Italy and Portugal have been taken into account for the computation of the average value.

Figure 28

Sites that issued information to the public ([1])



	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	12 %	38 %	62 %	2 %	17 %	66 %	78 %	50 %		18 %		43 %			81 %	42 %
1996	72 %	62 %	88 %	2 %	16 %	64 %	70 %	74 %		19 %	32 %	43 %	87 %		80 %	52 %
1999	86 %	61 %	82 %	2 %	26 %	75 %	81 %	100 %		62 %	52 %	50 %			80 %	61 %

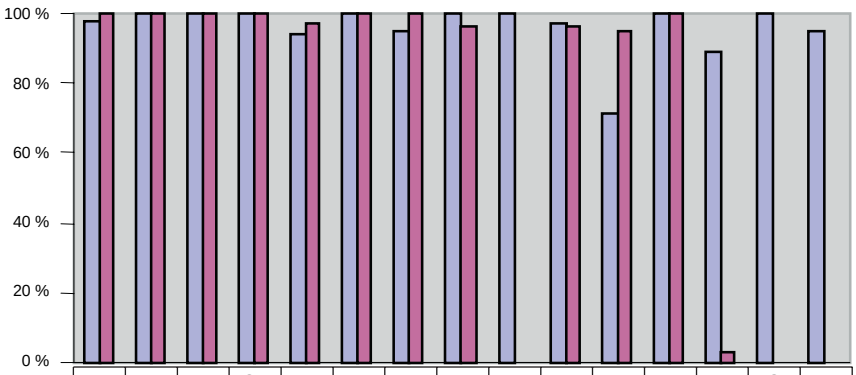
7.2.3. *Safety reports*

7.2.3.1. **Expected safety reports and received safety reports**

In 1999, the Competent Authorities have received almost all expected safety reports. As shown on the figure below ([2]), the percentage of received safety experts has increased over the reporting period 1997-1999 and reaches 100 % in most Member States that provided figures for 1999.

Figure 29

Received and expected reports



	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK
Ratio received reports / expected reports in 1996	98 %	100 %	100 %	100 %	94 %	100 %	95 %	100 %	100 %	97 %	71 %	100 %	89 %	100 %	95 %
Ratio received reports / expected reports in 1999	100 %	100 %	100 %	100 %	97 %	100 %	100 %	96 %		96 %	95 %	100 %	3 %		

([1]) *Note* : for computing the average value, only the values provided by Member States that had given inputs for the years 1994, 1996 and 1999 have been used. In order to allow a comparison between Member States, the average value has been computed without taking into account the sizes or number of sites of the different Member States.

([2]) The particular case of Finland can be explained by the transition period following the entry into force of the Seveso II transposition measures.

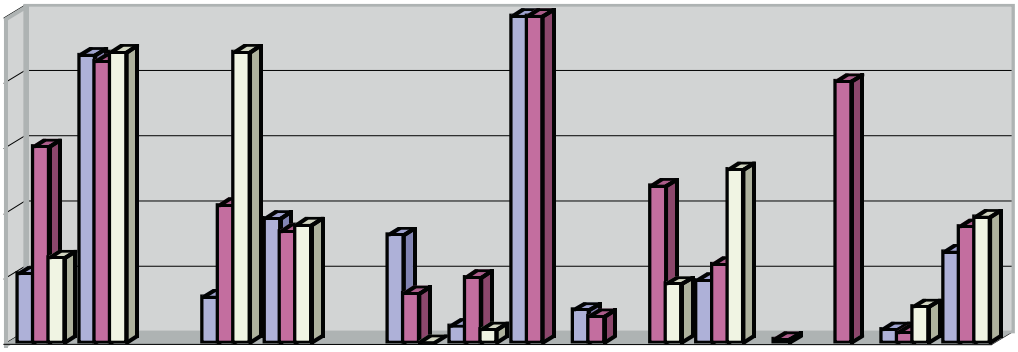
7.2.3.2. **Sites with formal requests**

If we consider the percentage of sites that have had formal request or legal action taken by the competent authority resulting from examination of the safety report, this percentage has increased slightly (36 % in average in 1996 and 39 % in 1999).

An increase or decrease in this percentage can not be considered by itself as a positive or negative element. Indeed, i.e. an increase in this percentage can be considered as an enhancement of the quality of the work done by the competent authorities or by an enhancement of the quality of the reports provided by the companies.

Figure 30

Sites with formal requests



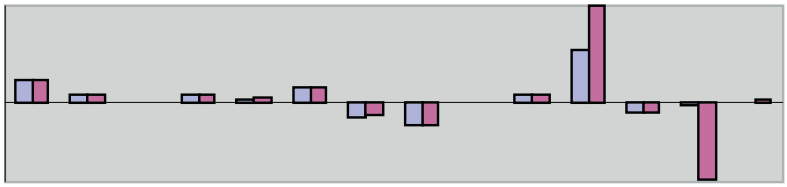
	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	21 %	88 %		14 %	38 %		33 %	5 %	100 %	10 %		19 %			4 %	28 %
1996	60 %	86 %		42 %	34 %		15 %	20 %	100 %	8 %	48 %	24 %	1 %	80 %	3 %	36 %
1999	26 %	89 %		89 %	36 %		0 %	4 %			18 %	53 %			11 %	39 %

The comparison of the data provided in 1999 and in 1996 shows that both the number of received safety reports and the number of expected safety reports have increased in a significant way in some Member States and decreased in a significant way in other Member States.

There is obviously a clear correlation between the number of expected safety reports and the number of received safety reports, as the ratio between the two magnitudes is close to one in most Member States.

Figure 31

Variation in the number of expected and received safety reports



	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	UK
Variation in the number of expected safety reports	26 %	7 %	–2 %	8 %	3 %	18 %	–20 %	–27 %	0 %	9 %	65 %	–14 %	–4 %	
Variation in the number of received safety reports	28 %	7 %	–2 %	8 %	7 %	18 %	–16 %	–30 %	0 %	8 %	119 %	–14 %	–97 %	3 %

7.2.3.3. **Number of sites and number of installations**

Nevertheless, in many Member States there is no clear link between the variation in the number of expected safety reports and the variation in the number of sites. Indeed, in some Member States (like Greece, Spain, Ireland, Italy or Portugal), there is a very clear correlation, and in other, like Belgium, Denmark, France or Netherlands for example, there is no obvious explanation to the variation of the number of safety reports.

It can be stressed that, for these Member States, the analysis shows that there is also no clear correlation between the number of safety reports and the number of activities.

Figure 32

Variation in the number of sites between 1996 and 1999

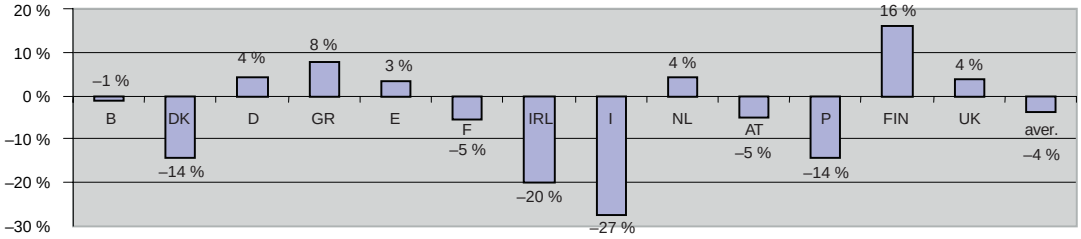
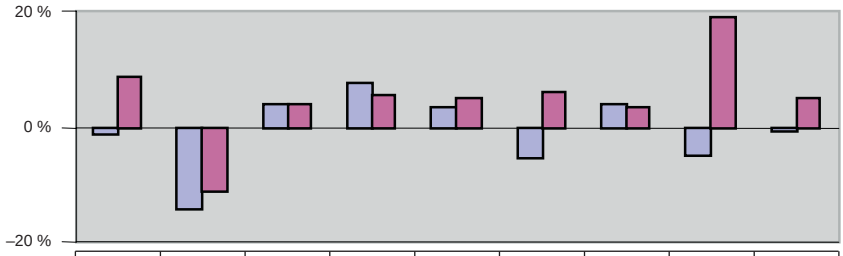


Figure 33

Variation in the number of sites and activities between 1996 and 1999



	B	DK	D	GR	E	F	NL	AT	aver.
Variation in the mumber of sites (96 to 99)	–1 %	–14 %	4 %	8 %	3 %	–5 %	4 %	–5 %	–1 %
Variation in the mumber of activities (96 to 99)	9 %	–11 %	4 %	6 %	5 %	6 %	3 %	19 %	5 %

Note : the figure covers only the Member States that have provided data related to the number of sites and the number of activities in 1996 and 1999.

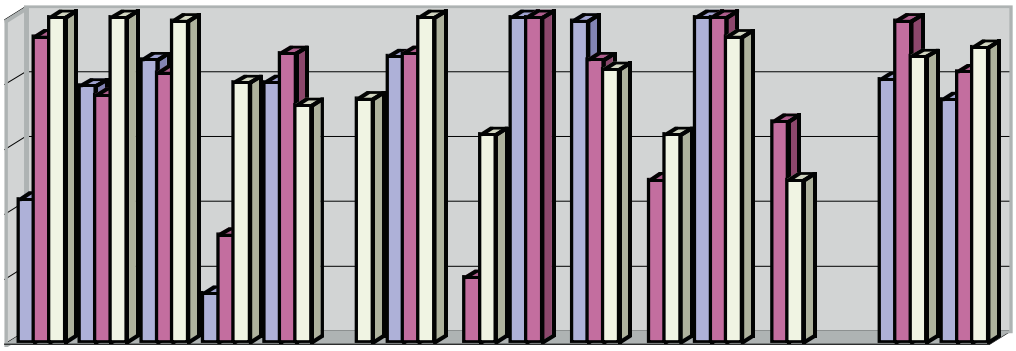
7.2.3.4. **Percentage of safety reports examined and judged sufficient**

The percentage of safety reports examined and judged sufficient depends on two different factors. First the capacity of the Member States to analyse the safety reports and then the acceptance or not of the report, this depending from the quality of the report and from the national requirements. On principle, an increase in this indicator is a good sign, if we assume it is not due to a lax position of the Competent Authorities.

In most Member States the increase from the previous reporting period has been confirmed over the period 1997-1999 and the average European Union percentage (of the Member States that provided data for this item) reaches now 90 %. In this context, it would be of high interest to get also some figures about the current time required for a company to get its safety report examined, in particular for new companies.

Figure 34

Safety reports examined and judged sufficient



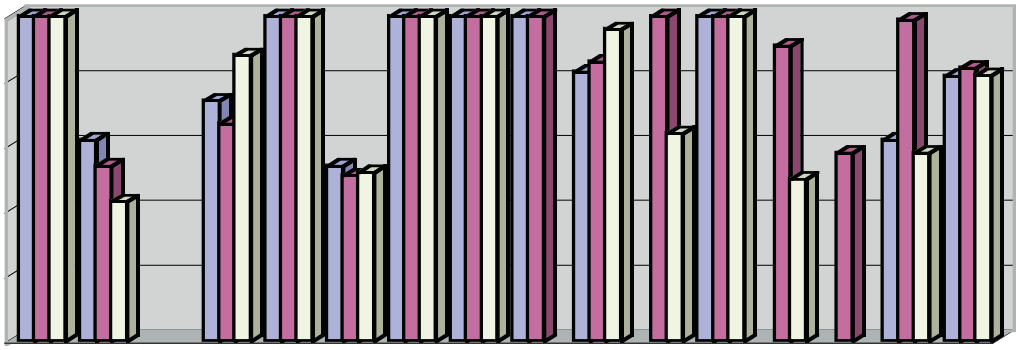
	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	44 %	79 %	87 %	15 %	80 %		88 %		100 %	99 %		100 %			81 %	75 %
1996	94 %	76 %	83 %	33 %	89 %		89 %	20 %	100 %	87 %	50 %	100 %	68 %		99 %	83 %
1999	100 %	100 %	99 %	80 %	73 %	75 %	100 %	64 %		84 %	64 %	94 %	50 %		88 %	91 %

7.2.3.5. **Safety reports and internal emergency plans**

The percentage of safety reports that include an internal emergency plan remained stable since 1994. Even if this percentage is relatively high (80 % in average of the Member States that provided data), no progress have been achieved.

Figure 35

Safety reports containing internal emergency plans



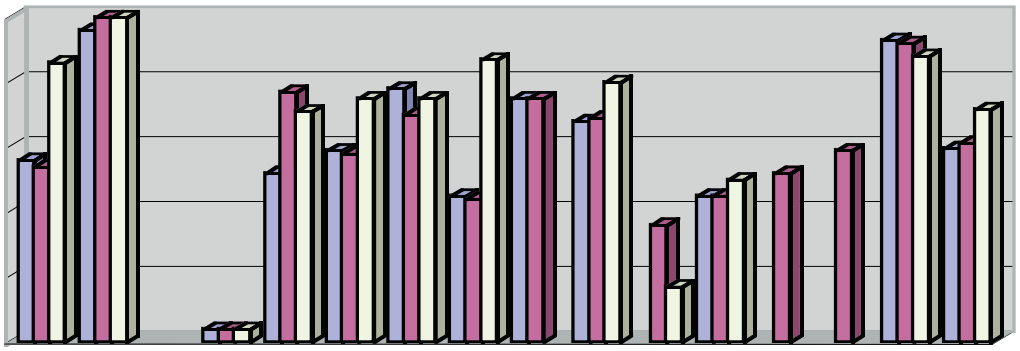
	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	100 %	62 %		74 %	100 %	54 %	100 %	100 %	100 %	83 %		100 %			62 %	82 %
1996	100 %	54 %		67 %	100 %	51 %	100 %	100 %	100 %	86 %	100 %	100 %	91 %	58 %	99 %	84 %
1999	100 %	43 %		88 %	100 %	52 %	100 %	100 %		96 %	64 %	100 %	50 %		58 %	82 %

7.2.3.6. **Sites with external emergency plans**

The percentage of sites with external emergency plans has increased again over the reporting period 1997-1999 as shown by the figure here below. Nevertheless, progresses are still to be achieved in this field.

Figure 36

Sites with external emergency plans



	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	aver.
1994	56 %	96 %		4 %	52 %	59 %	78 %	45 %	75 %	68 %		45 %			93 %	60 %
1996	54 %	100 %		4 %	77 %	58 %	70 %	44 %	75 %	69 %	36 %	45 %	52 %	59 %	92 %	61 %
1999	86 %	100 %		4 %	71 %	75 %	75 %	87 %		80 %	17 %	50 %			88 %	72 %

ANNEX I

QUESTIONNAIRE ON DIRECTIVE 82/501/EEC FOR 1994

The answers given should only relate to activities and sites covered by Article 5. The terms 'site', 'activity', 'safety report', 'internal emergency plan' and 'external emergency plan' (typed in bold and italics) are defined at the end of the questionnaire.

1. (a) Total number of ***sites***.

   (b) Number of newly built ***sites*** (new construction or process/capacity modification).

   (c) Number of existing ***sites*** newly covered after entry into force of Directive 88/610/EEC.

2. (a) Total number of ***activities*** on sites given in (a).

   (b) Number of newly built ***activities*** (new construction or process/capacity modification).

   (c) Number of existing ***activities*** newly covered after entry into force of Directive 88/610/EEC.

3. Total number of ***safety reports:***

   (a) Already received by the competent authorities.

   (b) Total expected (already received and not yet submitted).

4. How many ***safety reports:***

   (a) Include ***internal emergency plans*** or have contributed towards a site ***internal emergency plan*** (as referred to in Article 5(1) (c))?

   (b) Have been examined by Competent Authorities and judged as sufficient for adequate administrative follow-up to fulfil the obligations referred to in Article 7 fourth indent?

5. How many sites have had formal requests or legal action taken by Competent Authorities resulting from examination of the safety report in respect of obligations under Article 7(1) last indent?

6. How many sites given in 1(a) have:

   (a) An ***external emergency plan***?

   (b) Been subject to inspection referred to in Article 7(2)?

   (c) Issued information to the public as required by Article 8?

7. NOT compulsory (when possible or available)

   (a) How many ***safety reports*** (with or without internal emergency plans) have been examined by an external expert?

   (b) How many ***sites*** given in 1(a) are subject to specific land use planning requirements for the mitigation of major accidents?

Notes

1. (a) The meaning of 'activity' corresponds to the definitions given in Article 1(2)(a) of the Directive.

   (b) The meaning of 'site' corresponds to an industrial establishment where one or several activities take place and are operated under the responsibility of the same manufacturer.

2. (a) The meaning of 'safety report' corresponds to information to be provided under Article 5(1) excluding the first and third indent of paragraph (c).

   (b) The meaning of 'internal emergency plans' corresponds to information to be provided under Article 5(1) (c) first and third indent.

3. The meaning of 'external emergency plan' in this questionnaire corresponds to those referred to in the Directive, Article 7(1) last indent.

ANNEX II

QUESTIONNAIRE ON THE IMPLEMENTATION OF CERTAIN PROVISIONS OF DIRECTIVE 82/501/EEC FOR THE YEARS 1995 AND 1996

The answers given should only relate to activities and sites covered by Article 5. The terms 'site', 'activity', 'safety report', 'internal emergency plan' and 'external emergency plan' (typed in bold and italics) are defined at the end of the questionnaire.

1. (a) Total number of ***sites***.

   (b) Number of newly built ***sites*** (new construction or process/capacity modification).

2. (a) Total number of ***activities*** on sites given in (a).

   (b) Number of newly built ***activities*** (new construction or process/capacity modification).

3. Total number of ***safety reports***:

   (a) Already received by the Competent Authorities.

   (b) Total expected.

4. How many ***safety reports***:

   (a) Include ***nternal emergency plans*** or have contributed towards a site ***internal emergency plan*** (as referred to in Article 5(1) (c))?

   (b) Have been examined by Competent Authorities and judged as sufficient for adequate administrative follow-up to fulfil the obligations referred to in Article 7?

5. How many sites have had formal requests or legal action taken by Competent Authorities resulting from examination of the safety report in respect of obligations under Article 7(1) last indent?

6. How many sites given in 1(a) have:

   (a) An ***external emergency plan***?

   (b) Been subject to inspection referred to in Article 7(2)?

   (c) Issued information to the public as required by Article 8?

7. NOT compulsory (when possible or available)

   (a) How many ***safety reports*** (with or without internal emergency plans) have been examined by an external expert?

   (b) How many ***sites*** given in 1(a) are subject to specific land use planning requirements for the mitigation of major accidents?

Notes

1. (a) The meaning of 'activity' corresponds to the definitions given in Article 1(2)(a) of the Directive.

   (b) The meaning of 'site' corresponds to an industrial establishment where one or several activities take place and is/are operated under the responsibility of the same manufacturer.

2. (a) The meaning of 'safety report' corresponds to information to be provided under Article 5(1) excluding the first and third indent of paragraph (c).

   (b) The meaning of 'internal emergency plans' corresponds to information to be provided under Article 5(1)(c) first and third indent.

3. The meaning of 'external emergency plan' in this questionnaire corresponds to those referred to in the Directive, Article 7(1) third indent.

ANNEX III

SEVESO-I-QUESTIONNAIRE 1994

OVERVIEW

Question	B	DK	D	GR	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	Total
1a	84	24	2 358	49	147	383	18	418	4	115	—	42	—	—	303	3 945
1b	1	1	338	5	9	13	0	30	1	3	—	1	—	—	1	403
1c	20	4	—	0	19	85	2	70	3	46	—	1	—	—	14	264
2a	234	33	2 358	50	134	687	—	1 080	4	773	—	—	—	—	470	5 823
2b	42	10	338	5	9	18	—	45	1	5	—	—	—	—	1	474
2c	45	4	—	—	19	16	—	150	3	201	—	—	—	—	6	444
3a	155	34	1 773	47	118	633	17	418	4	110	—	42	—	—	483	3 834
3b	161	34	2 358	50	140	687	18	418	4	131	—	42	—	—	497	4 540
4a	155	21	—	35	119	341	17	418	4	91	—	42	—	—	300	1 543
4b	68	27	1 544	7	94	—	15	—	4	109	—	42	—	—	391	2 301
5	18	21	—	7	56	—	6	20	4	12	—	8	—	—	12	164
6a	47	23	—	2	77	227	14	190	3	78	—	19	—	—	283	963
6b	84	24	—	1	88	—	18	40	3	114	—	26	—	—	303	701
6c	10	9	1 464	1	25	252	14	210	—	21	—	18	—	—	245	2 269
7a	—	7	—	47	94	—	—	—	—	60	—	—	—	—	—	208
7b	—	7	—	—	2	325	—	60	—	6	—	—	—	—	268	668

ANNEX IV

SEVESO-I-QUESTIONNAIRE 1995

OVERVIEW

Question	B	DK	D	EL	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	Total
1a	86	21	1 845	49	147	392	18	430	4	122	158	42	57	80	304	3 755
1b	2	—	325	—	10	9	—	38	—	7	—	—	1	—	8	400
2a	254	27	1 845	50	156	690	—	1 068	4	773	—	—	90	—	466	5 423
2b	48	6	325	—	15	17	—	42	—	21	—	—	1	—	8	483
3a	161	41	1 847	47	150	640	18	430	4	116	108	42	64	75	491	4 234
3b	164	41	1 847	50	160	720	18	430	4	141	158	42	66	80	492	4 413
4a	161	21	—	35	150	370	18	430	4	84	108	42	—	44	488	1 955
4b	142	31	1 521	7	133	—	16	84	4	111	4	42	45	49	477	2 666
5	33	18	—	7	50	—	4	84	4	13	39	8	1	25	4	290
6a	53	21	—	2	113	227	14	190	3	78	33	19	—	47	283	1 083
6b	86	21	—	1	76	—	18	179	3	120	73	26	57	80	304	1 044
6c	61	13	1 496	1	24	252	14	319	—	22	33	18	45	—	247	2 545
7a	—	8	—	47	93	—	—	—	—	6	—	—	—	—	—	154
7b	—	7	—	—	6	330	—	—	—	8	—	—	—	—	269	620

ANNEX V

SEVESO-I-QUESTIONNAIRE 1996

OVERVIEW

Question	B	DK	D	EL	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	Total
1a	85	21	1 828	52	147	392	20	430	4	124	140	42	69	69	308	3 731
1b	—	—	338	5	10	—	2	—	—	6	—	—	1	—	1	363
2a	266	27	1 828	53	156	698	—	1 068	4	592	213	—	110	—	466	5 481
2b	4	6	338	5	15	27	—	—	—	3	—	—	1	—	1	400
3a	162	41	1 909	52	150	720	19	430	4	119	100	42	74	69	493	4 384
3b	165	41	1 909	52	160	720	20	430	4	123	140	42	83	69	519	4 477
4a	165	22	—	35	150	370	19	430	4	102	100	42	67	40	488	2 034
4b	152	31	1 582	17	133	—	17	84	4	103	50	42	50	—	477	2 742
5	51	18	—	22	50	—	3	84	4	10	67	10	1	55	10	385
6a	46	21	—	2	113	227	14	190	3	86	50	19	36	41	283	1 131
6b	85	21	—	43	76	—	20	179	3	124	78	28	69	36	308	1 070
6c	61	13	1 612	1	24	252	14	319	—	23	45	18	60	—	247	2 689
7a	—	8	—	47	93	—	—	—	—	2	—	—	—	—	—	150
7b	—	8	—	—	6	330	—	—	—	9	—	—	—	—	269	662

SEVESO-I-QUESTIONNAIRE 1997

OVERVIEW

Question	B	DK	D	EL	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	Total
1a	89		1 955				19					35	76			
1b	0		283				—					—	—			
2a	280		1 955				—					—	—			
2b	4		283				—					—	—			
3a	197		1 932				18					35	76			
3b	197		1 932				19					35	—			
4a	197		—				18					35	—			
4b	179		1 754				18					35	76			
5	47		—				0					26	0			
6a	61		—				13					18	—			
6b	89		—				16					20	76			
6c	61		1 610				16					18	—			
7a	—		—				0					—	0			
7b	—		—				0					—	—			

SEVESO-I-QUESTIONNAIRE 1998

OVERVIEW

Question	B	DK	D	EL	E	F	IRL	I	L	NL	AT	P	FIN	S	UK	Total
1a	89		1 893			—	18			124		33	76			
1b	2		273			—	—			1		1	—			
2a	293		1 893			—	—			591		—	—			
2b	4		273			—	—			3		—	—			
3a	207		1 868			—	17			124		33	76			
3b	207		1 868			—	18			129		33	—			
4a	207		—			—	17			116		33	—			
4b	186		1 869			—	17			110		33	76			
5	19		—			—	0			7		18	0			
6a	67		—			—	13			104		18	—			
6b	89		—			—	16			—		15	76			
6c	67		1 559			—	15			35		18	—			
7a	—		—			—	—			9		—	0			
7b	—		—			—	—			6		—	—			

SEVESO-I-QUESTIONNAIRE 1999

OVERVIEW

Question	B	DK	D	EL	E	F	IRL	I	L	NL	AT	P	FIN (1)	S	UK	Total
1a	84	18	1 903	56	152	371	16	313	4	129	133	36	80		320	
1b	1	0	271	4	5	0	—	—	1	5	0	3	1		—	
2a	289	24	1 903	56	164	740	—	—	—	611	253	—	—		—	
2b	1	9	271	4	5	130	—	—	—	15	14	—	—		—	
3a	208	44	1 874	56	160	850	16	301	2	129	219	36	2		508	
3b	208	44	1 874	56	165	850	16	313	2	134	231	36	80		—	
4a	208	19	—	49	160	441	16	301	—	124	141	36	1		293	
4b	208	44	1 849	45	116	—	16	—	—	109	141	34	1		—	
5	22	16	—	50	55	—	0	12	—	—	24	19	—		35	
6a	72	18	—	2	108	280	12	272	2	103	23	18	—		283	
6b	84	18	—	45	80	—	12	65	2	—	50	17	80		—	
6c	72	11	1 562	1	40	280	13	—	—	80	69	18	—		255	
7a	—	7	—	48	100	—	0	—	—	8	—	—	0		—	
7b	—	7	—	—	6	301	0	—	—	6	—	—	80		—	

(1) Refers to Seveso II Directive.