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REPORT FROM THE COMMISSION

Report on the Application in the Member States of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances for the period 2009-2011

(Text with EEA relevance)

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1. INTRODUCTION

*Council Directive 96/82/EC*¹ on the control of major-accident hazards involving dangerous substances, the so-called Seveso II Directive, aims at the prevention of major-accident hazards involving dangerous substances and at the limitation of the consequences of such accidents for man and the environment. The Seveso II Directive applies to some ten thousand industrial establishments where dangerous substances are present.

This report covers the application of the Directive for the period 2009-2011. Article 19(4) of the Directive obliges Member States to provide the Commission with a three-yearly implementation report in accordance with the procedure laid down in the Reporting Standardization Directive². In line with previous practice these reports are limited to information relating to upper-tier establishments covered by Articles 6 and 9.

This report summarises in Chapter 2 the information provided by the Member States on the basis of a questionnaire³. The aim of this summary is to assess the level of implementation and to identify any shortcomings that need to be addressed. Chapter 3 supplements this with some figures on accidents resulting from an analysis of the eMARS⁴ and SPIRS⁵ databases, managed by the Major Accident Hazard Bureau of the Joint Research Centre of the European Commission, on the basis of information supplied by the Member States. Conclusions and the way forward follow in Chapter 4. Annex 1 contains an excerpt of provided figures. The full contributions of the 27 Member States and the voluntary contributions from Norway, Iceland and Macedonia, as well as the questionnaire, the previous reports for the periods 2000-2002⁶, 2003-2005⁷, and 2006-2008⁸ and additional information can be found on the Commission's Seveso website⁹.

2. SUMMARY OF MEMBER STATES REPORTS

All 27 Member States submitted their triennial reports to the European Commission. Two-thirds met the deadline of 1 October 2012 for providing the information.

¹ Directive 96/82/EC, OJ L 10, 14.1.1997, p.13; amended by Directive 2003/105/EC, OJ L 345, 31.12.2003, p.97

² Directive 91/692/EEC of 23 December 1991, OJ L377, 31.12.1991, p. 48

³ Document C(2008) 5088 final, Commission Decision of 19/09/2008

⁴ Online Major Accident Reporting System <https://emars.jrc.ec.europa.eu>
⁵ "Seveso Plants Information Retrieval System"

⁶ Document C(2004)3335

⁷ Document C(2007)3842

⁸ Document C(2010) 5422 final

⁹ <http://ec.europa.eu/environment/seveso/implementation.htm>

2.1. Number of establishments

In December 2011, a total of 10314 establishments were reported, an increase over the reporting period of 3%, with 5523 lower-tier (54 %) and 4791 (46 %) upper-tier. With regards to upper-tier establishments, this represents an increase over the previous three years of 6% (up from 4,528 in 2008) This increase could be the result of economic expansion but also of better compliance with the notification requirement. The picture at Member State level is mixed, with some showing increases and others decreases in numbers.

Figure 1: Total number of Seveso establishments in the whole EU in the years 2009 to 2011

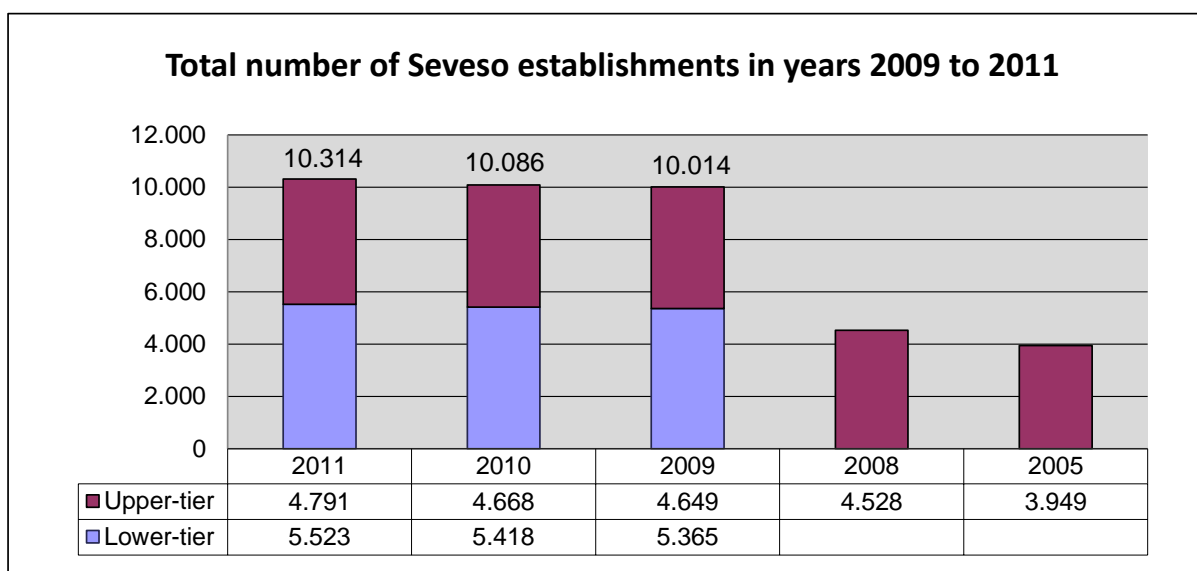
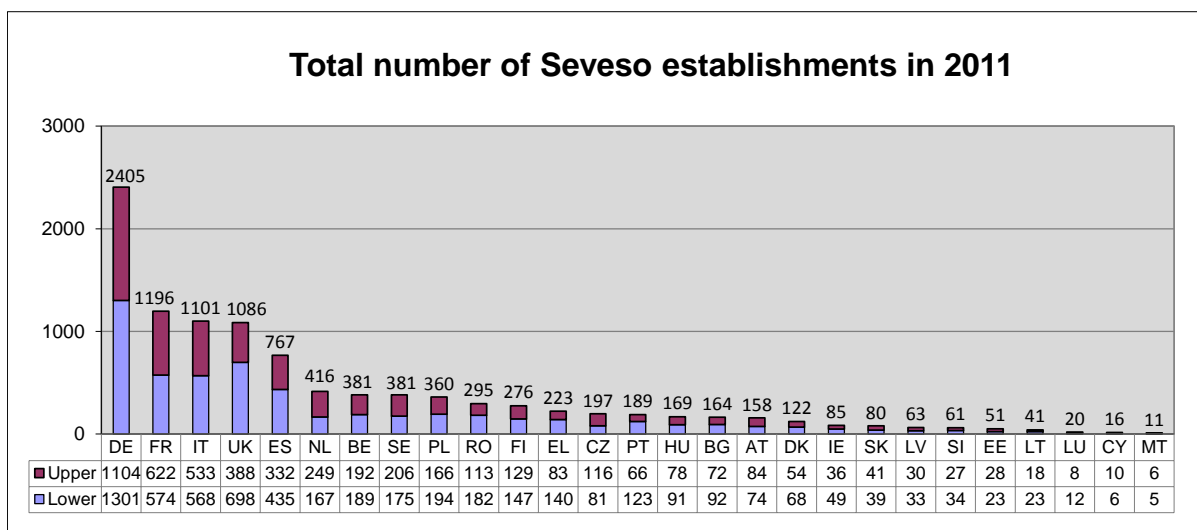


Figure 2: Total number of Seveso establishments per Member State reported for 2011



Germany is the country with the highest number of Seveso establishments, followed by France, Italy and the United Kingdom, each with about 1100 establishments.

It follows from statistical conclusions drawn from the SPIRS database that Finland has the most establishments per million inhabitants with 49 Seveso establishments per million inhabitants, then Luxembourg and Sweden. Malta has the highest concentration of Seveso establishments, with 34 establishments per 1000 km², followed by Belgium, the Netherlands, Luxembourg and Germany. 19 Member States have fewer than 3 Seveso establishments per 1000 km².

In terms of number of Seveso establishments per unit GDP, Estonia and Latvia lead with approximately 3 Seveso establishments per billion € GDP. Germany is ranked 17th.

Among the 49 activities used to categorize the Seveso establishments, seven activities contribute to 50% of establishments:

- Fuel storage (including heating, retail sale, etc.);
- Wholesale and retail storage and distribution (excluding LPG);
- LPG storage;
- General chemicals manufacture;
- Production of basic organic chemicals;
- Power generation, supply and distribution;
- LPG production, bottling and bulk distribution.

2.2. Operators

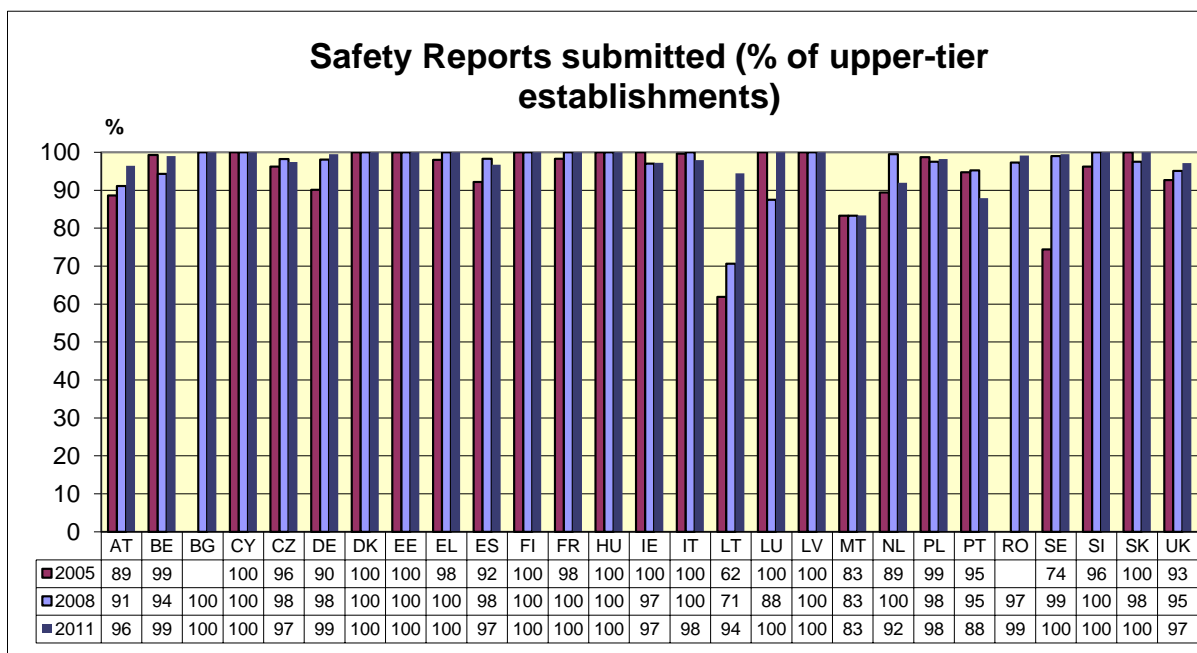
The main requirements for operators of upper tier establishments relate to the drafting of safety reports and internal emergency plans.

The Member States' replies indicate that, by 2011, about 2% of operators had not submitted a safety report to the competent authorities. This percentage has remained rather stable over the past years: 2% in 2008 and in 2009, 1% in 2010.

The figures for internal emergency plans are similar, as competent authorities mainly have proof of the existence of such plans through the examination of the safety report. By the end of 2011, about 1% (67) of the upper-tier establishments did not have an internal emergency plan (compared to 1% in 2009). In addition, several Member States (Bulgaria, Hungary and Latvia) reported that this requirement had also been imposed upon operators of lower-tier establishments, in accordance with their national regulations.

It can thus be concluded that there is overall a high level of compliance with the obligation to produce safety reports and draw up internal emergency plans. However, a limited number of Member States need to take measures to further increase compliance with this obligation, including Malta and Portugal, where less than 90% of upper-tier establishments have submitted safety reports in the past three years.

Figure 3: Safety reports submitted in 2005, 2008 and 2011



2.3. Competent Authorities

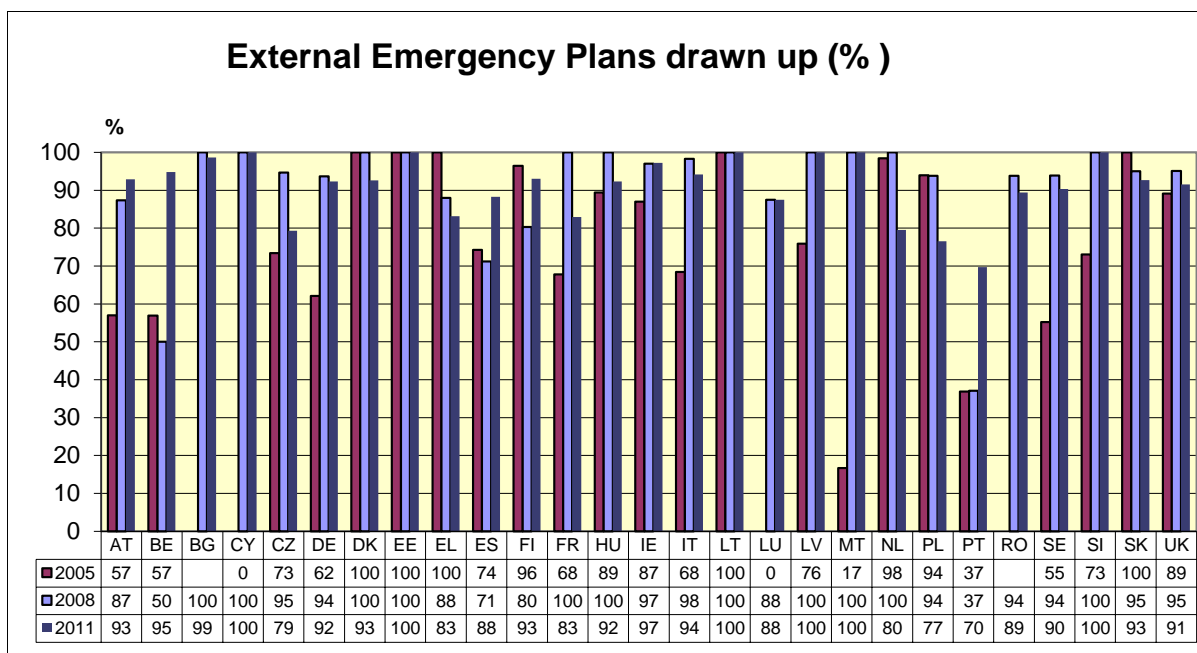
The Seveso II Directive imposes several obligations on competent authorities, of which the most important are to examine the safety report and to communicate their conclusions to the operator, to draw up external emergency plans, to ensure that the public liable to be affected is informed on safety measures, to carry out inspections, to identify groups of establishments with possible "domino effects", and to take into account land-use planning implications of major-accident hazards. Member States have provided a lot of specific information in their national replies. This summary focuses on aspects for which statistically meaningful evaluations are possible or information can be compared: these are external emergency planning, inspections, information to the public and the use of coercive instruments.

2.3.1. Elaboration of external emergency plans

Authorities designated for that purpose draw up external emergency plans for the measures to be taken outside the establishment. These plans are important in containing and controlling incidents so as to minimize effects and limit damage to man, the environment and property.

The data provided show that 90% of upper-tier establishments had an external emergency plan drawn up by designated authorities in 2011, 6% were lacking such a plan and 4% had been exempted from this requirement under Article 11(6). Consequently, on average, 93% of the upper-tier establishments complied by the end of 2011. This represents a further increase in comparison with previous reporting periods where the corresponding figures were 91% in 2008 and 68% in 2005. Nevertheless, the situation should still improve, especially in the Czech Republic, the Netherlands and Portugal, where external emergency plans were drawn up for less than 80% of upper-tier establishments.

Figure 4: External emergency plans drawn up in 2005, 2008, 2011

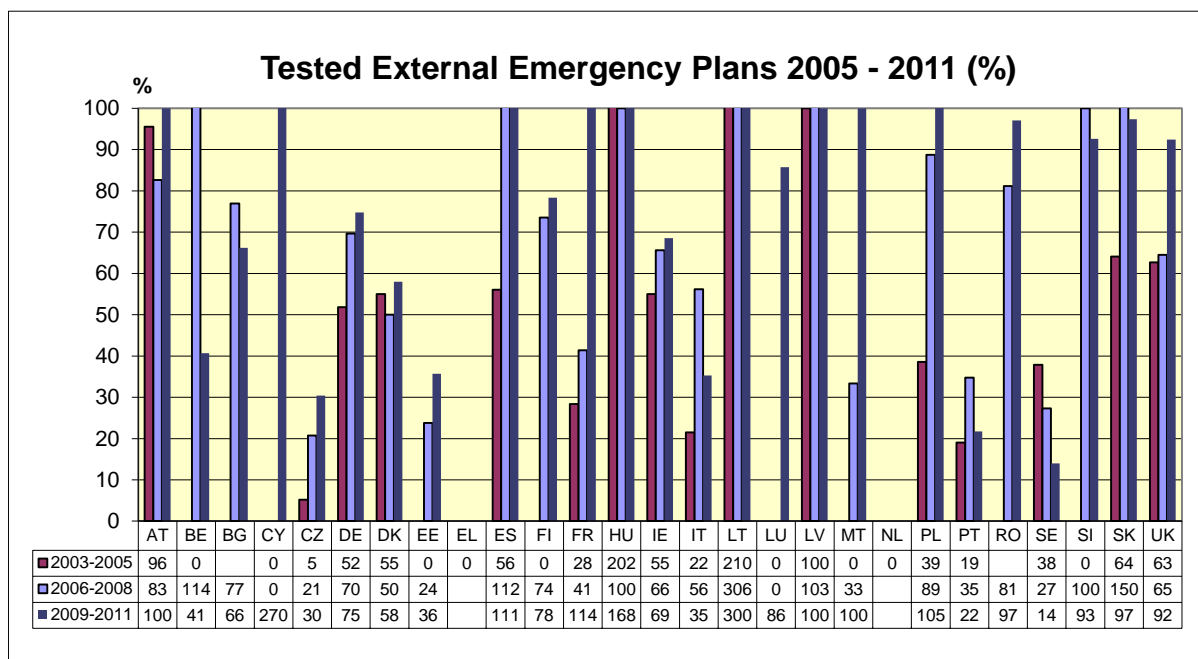


2.3.2. Testing and Review of external emergency plans

Emergency plans have to be reviewed and tested at intervals of no longer than three years. Although no exact statistical evaluation is possible because some plans may have been tested more than once and other plans not at all in this period, it follows from Member States' replies that around 73% of the existing External Emergency Plans in EU-27 were tested between 2009 and 2011. This is 13% more than the reported 60% tested plans for the period 2006-2008 and significantly higher than the reported 40% of plans tested during the period 2003-2005. Despite this increase, there is a significant variation between Member States (ranging from 100% to only 14% of emergency plans being tested). Improvements are needed in particular in Belgium, the Czech Republic, Greece, Italy, Portugal and Sweden, where less than 50 % of external emergency plans were tested in the past three years.

Figure 5: External emergency plans tested in past three reporting periods¹⁰

¹⁰ Figures > 100% because some Member States may have interpreted the question as number of establishments for which the emergency plans are tested each year

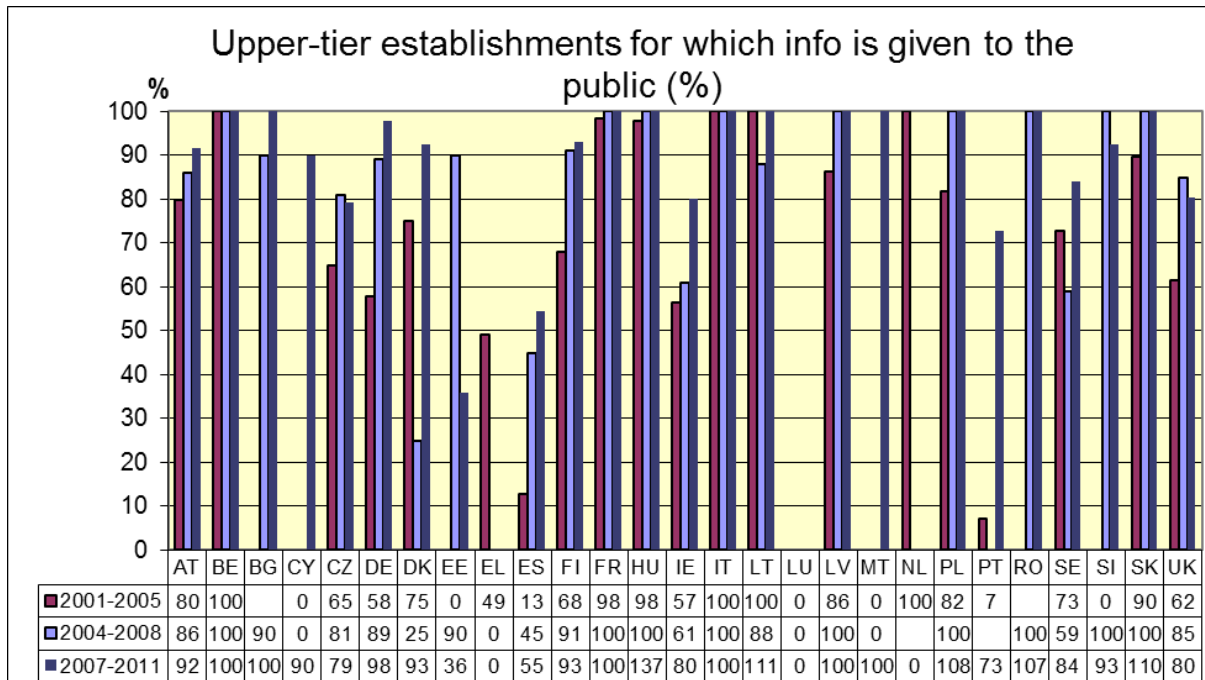


2.3.3. Information to the public

Information on safety measures and on requisite behaviour in the event of an accident has to be supplied regularly, without their having to request it, to persons liable to be affected by a major accident. The Directive leaves it open who is responsible for this. The maximum period between the repetition of this information to the public is five years (two years longer than the reporting period). Therefore the questionnaire asked for how many establishments information had been made available during the period 2007-2012. Not all Member State replies refer to this period.

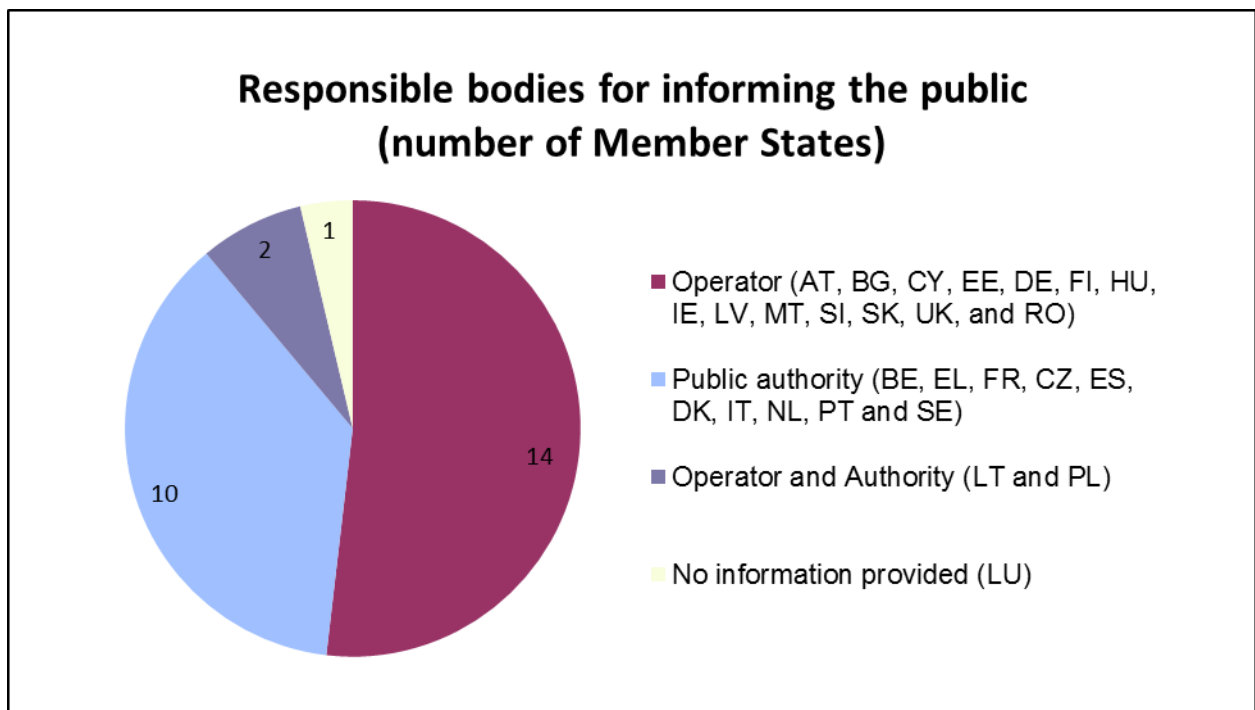
Overall, the public was informed between 2007 and 2012 regarding 4,171 establishments, representing around 87% of the Seveso upper-tier establishments, and an increase from 80% in 2008 and 72% in 2005. However, for several Member States, including Greece, Spain, Luxemburg and the Netherlands, there were no or very few cases where information was supplied. Furthermore, the figures do not provide information about the quality and effectiveness of the information provided.

Figure 6: Establishments for which information is given to the public



In addition, the questionnaire requested information on who is responsible for informing the public. The data provided show that in 10 Member States the responsibility lies with the authorities, and in 14 Member States, it lies with the operators, whereas two Member States reported shared responsibilities between operators and authorities. In general, responsible bodies for informing the public are also the ones assuming the associated costs.

Figure 7: Responsible bodies for informing the public (number of Member States)



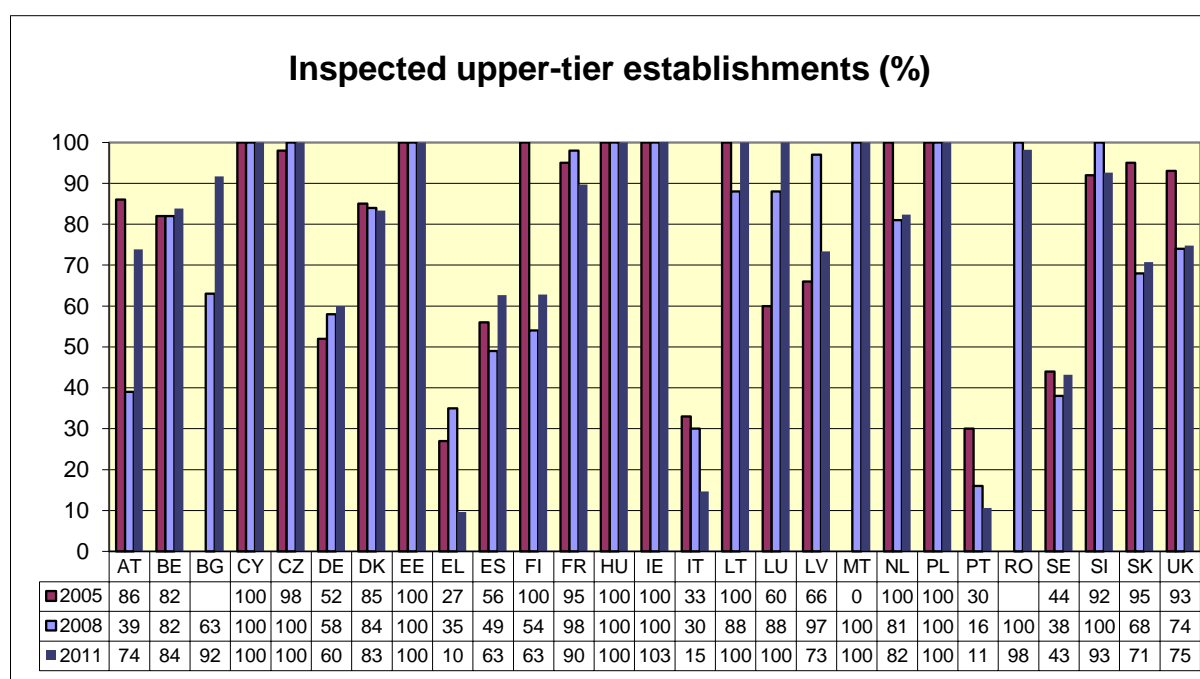
2.3.4. Inspections

On average, inspections were undertaken in 65% of upper-tier establishments in 2009 and 2010, and in 66% in 2011. This figure is practically unchanged in comparison with 2008

when the figure was 66% or 2005 when it was 69%. Inspections in lower-tier establishments were carried out less frequently as, on average, these were undertaken in 42% of such establishments in 2009, 41% in 2010, and 43% in 2011. This reflects the fact that the obligation of yearly inspections only applies to upper-tier establishments, unless a programme of inspections has been established for a particular establishment, based upon a systematic appraisal of major-accident hazards of that establishment. No data for inspections of lower-tier sites are available for previous reporting periods.

Annual figures do not allow clear conclusions to be drawn as the frequency of inspections is linked to the programme of inspections, and therefore it may not be necessary to inspect all sites each year. However, a detailed analysis of the information provided by Member States has identified that inspection coverage among upper-tier establishments may need to be increased in several Member States, including Greece, Italy, Portugal and Sweden where less than 50 % of upper-tier establishments have been inspected in the last reporting period.

Figure 8: Percentage (%) of Inspected Establishments in 2005, 2008 and 2011



2.3.5. Use of coercive instruments

All Member States have reported on the use of coercive instruments that can be used in case of infringement of the legislation. There were 5895 cases where coercive instruments were applied. The most used instrument has been the formal notice (improvement, compliance, warning, etc), followed by written orders and compliance orders and administrative fines. Reliance on the prohibition of use has been very limited (38 cases) and no criminal proceedings were reported.

Table 1: Use of coercive instruments reported by Member States for the years 2009-2011

Category of instruments	MS reporting instruments in this category	Number of reported uses			Period total
		2009	2010	2011	

Category of instruments	MS reporting instruments in this category	Number of reported uses			Period total
		2009	2010	2011	
Improvement notice/ Compliance notice	BE, BG, CY, DE, DK, EE, ES, FR, IE, IT, LT, LU, LV, NL, PL, PT, RO, SI, UK	1321	1420	1354	4501
Written orders/ Compliance order	BE, BG, CY, DE, DK, EE, ES, FR, IT, LT, LV, NL, PL, PT, RO, SE, SI, UK	294	309	312	922
Administrative fine	AT, BE, BG, CZ, DE, EE, ES, FI, FR, HU, IE, IT, LT, LV, NL, PL, PT, RO, SI, SK	92	88	117	325
Infringement proceedings (general)	BE, BG, CY, CZ, DE, EE, ES, FR, LV, MT, NL, PL, PT, RO, SI, UK	32	17	11	69
Verbal warnings	BE, CY, DK, RO, SI, UK	10	20	30	40
Prohibition of use	AT, BE, BG, CY, CZ, DE, DK, ES, FI, HU, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, UK	13	14	9	38
Criminal proceedings (provision for imprisonment)	BE, DE, EE, FR, IT, NL, PL, PT, UK	0	0	0	0

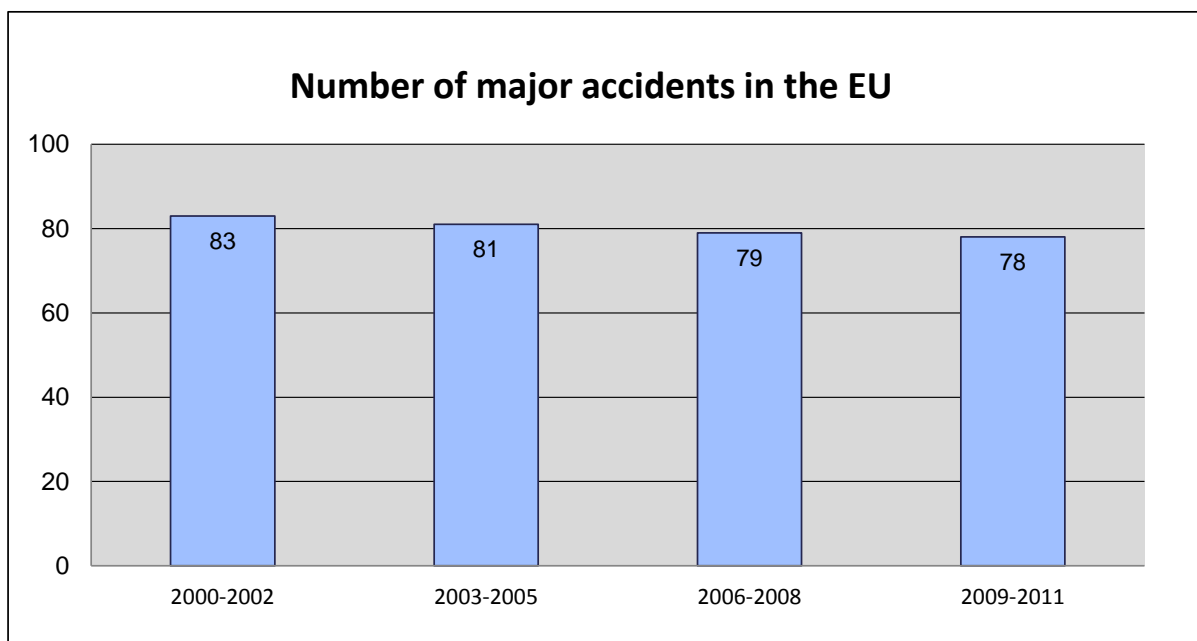
3. STATISTICS ON ACCIDENTS DRAWN FROM eMARS

The number of major accidents is a key indicator to measure the performance of the Directive and its aim to prevent accidents. Member States are obliged to report in eMARS, the Major Accident Reporting System, all major accidents meeting the criteria listed in Annex VI of the Seveso Directive. They may also report other events¹¹ (other major accidents not meeting these criteria or not covered by the Seveso Directive, for instance related to transport) and near misses. Over the period 2000-2011, the number of reported major accidents remained relatively stable, with an average of 27 per year, despite the increase in the number of sites covered by the Seveso Directive (3% between 2009 and 2011)¹². Due to delays in accident reporting mainly caused by the time taken to complete legal proceedings, as well as the time needed for preparing and approving the reports recorded in the eMARS database, the statistics from the last 3 years may still raise.

Figure 9: Number of reported major accidents in eMARS

¹¹ Other events may be major accidents not meeting the criteria of annex VI or accidents not covered by the Seveso Directive, for instance accidents related to transport

¹² It is not possible to determine the total increase since 2000 because no data on the number of lower-tier establishments were reported in the previous reporting periods. However, it can be noted that the number of upper-tier establishments has increased by 25 % since 2005



The accidents reported in the database are mainly major accidents in the sense of Seveso. Near misses and other events are less reported. The main criteria that trigger reporting are: more than 5% of qualifying quantity of substances involved, injury to persons, and damage to property.

More accidents from upper tier establishments are reported in the database for every year between 2000 and 2011 than for lower tier establishments (224 upper-tier accidents, against 43 lower-tier and 54 accidents reported without specifying whether in upper-tier or lower-tier), reflecting the higher risks of upper tier establishments.

There is a general reducing trend in the number of fatalities and of injuries reported over the last decade. The total number of fatalities went down from 27 in 2000 to 9 in 2010. In particular there has been no fatality off-site since 2006. The total number of injuries went down from 126 in 2000 to 23 in 2010.

Among the hazardous phenomena involved in the accidents reported in eMARS, toxic release appears to be the most frequent, for every year except 2002, 2003 and 2010, in which explosions and fires occurred more frequently. The main substance categories involved are:

- Toxic: 91 major accidents;
- Extremely flammable: 80 major accidents;
- Very toxic: 53 major accidents.

Seven activity types have contributed to more than 10 events over the period 2000-2011. The activities "Processing of metals", "Petrochemical/Oil Refineries" and "General Chemicals manufacture" have the highest accident frequency in terms of number of accidents per establishment.

Table 2: Activity types that have contributed to more than 10 events in the period 2000-2011¹³

Activity Type	Number of Seveso	Events reported

¹³ Information drawn from the eMARS and SPIRS databases

	establishments							
	Total number	% ¹⁴	Major Accidents	Near Misses	Other events	Total events	% ¹⁵	Frequency ¹⁶
Plastic and rubber manufacture	368	3.89	9	1		10	2.8	0.7
Production and storage of pesticides, biocides, fungicides	267	2.83	12		1	13	3.6	1.3
Wholesale and retail storage and distribution (excluding LPG)	877	9.28	15	1	2	18	5	0.5
Processing of metals	78	0.83	19		2	21	5.9	7
Petrochemical / Oil Refineries	238	2.52	62	4	6	72	20	8
General chemicals manufacture (not included above)	591	6.25	98	1	2	101	28.4	4.5
Other activity	276	2.92	30		4	34	9.5	3.2

Seven accidents have been reported to have transboundary effects.

For over 90% of accidents reported from 2000 to 2011 it was noted that there were lessons learned. However, in many cases the quality of this information was very poor. This is an area where improvement will be encouraged by the Commission in future years.

4. CONCLUSIONS AND WAY FORWARD

The above analysis confirms that the Directive is working well and that implementation by the Member States has substantially improved over the last two reporting periods. Over the past ten years, despite the large increase in number of establishments resulting mainly from new Member States joining the EU, the number of major accidents remained relatively stable, with an average of 27 major accidents reported per year. The significant decrease in the number of fatalities and injuries reported over the last decade is very encouraging.

The practical implementation and enforcement of the Seveso II Directive has further improved in most areas, and in particular industry operators are complying to a large extent

¹⁴ Number of establishments (for the activity type) against the total number of Seveso establishments reported in SPIRS (9449 establishments reported)

¹⁵ Percentage expressing the number of events (for the activity type) against the total number of events reported for the period 2000 to 2011 (356 events)

¹⁶ Frequency expressed in terms of percentage of events (for the activity type) against the percentage of establishments (for the same activity type)

with the requirements regarding safety reports and internal emergency plans. However, efforts are still needed in some fields in a number of Member States, in particular with regard to the development and testing of external emergency plans and the provision of information to the public. Furthermore, a relatively high number of establishments remain uninspected in a given year (around 34% of upper-tier establishments), which requires corrective action.

The findings covering the previous reporting period¹⁷ have been taken into account by the Commission in the review of the Seveso II Directive, which has led to the adoption of the Seveso III Directive 2012/18/EU¹⁸. The new Directive improves the right of the public to be appropriately informed, making certain provisions also applicable to lower-tier establishments. It includes detailed rules to guarantee adequate consultation of the public on individual projects and introduces stricter provisions on inspections. Compliance with the Seveso III Directive is therefore expected to contribute to the necessary improvements highlighted in this report.

The Commission will closely monitor progress on these issues and continue to assist Member States to further improve their level of performance, through various supporting activities and enforcement action as appropriate.

¹⁷ Document C(2010) 5422 final

¹⁸ OJ L 197, p. 1 of 24.7.2012

MS	Upper-tier 2011	Upper-tier 2008	Upper-tier 2005	Safety report not yet submitted 2011	Internal Emergency plan not yet drawn up 2011	External Emergency plan not yet drawn up 2011	External Emergency plan not yet drawn up 2008	EEPs tested 09+10+11	EEPs tested 06+07+08	Info to the public 09+10+11	Info to the public 06+07+08	Upper-tier inspected 2011	Upper-tier inspected 2008
AT	84	79	79	3	3	4	10	78	57	77	68	62	31
BE	192	174	137	2	0	9	87	74	99	192	174	161	143
BG	72	52		0	0	1	0	47	40	72	47	66	33
CY	10	11	13	0	0	0	0	27	0	9	0	10	11
CZ	116	112	79	3	3	3	6	28	22	92	91	116	112
DE	1104	1077	976	6	4	15	68	762	703	1079	959	662	625
DK	54	44	20	0	1	4	0	29	22	50	11	45	37
EE	28	21	14	0	0	0	0	10	5	10	19	28	21
EL	83	83	100	0	0	14	10			0	0	8	29
ES	332	295	245	11	6	36	85	324	236	181	133	208	145
FI	129	127	84	0	0	9	25	94	75	120	116	81	69
FR	622	553	593	0	12	59	0	587	229	622	553	558	542
HU	78	63	47	0	0	0	0	121	63	107	63	78	63
IE	36	33	23	1	0	1	1	24	21	67	20	37	33
IT	533	518	462	11	11	31	9	177	286	533	518	78	155
LT	18	17	21	1	0	0	0	54	52	20	15	18	15
LU	8	8	5	0	0	0	1	6	0	0	0	8	7
LV	30	30	29	0	0	0	0	30	31	30	30	22	29
MT	6	6	6	1	0	0	0	6	2	6	0	6	6
NL	249	221	188	20	0	51	0				0	205	179
PL	166	161	149	3	3	7	10	133	134	180	161	166	161
PT	66	62	57	8	8	20	39	10	8	48	0	7	10

RO	113	113		1	1	9	7	98	86	121	113	111	113
SE	206	195	172	1	4	20	12	26	50	173	115	89	74
SI	27	24	26	0	0	0	0	25	24	25	24	25	24
SK	41	40	39	0	0	1	2	37	57	45	40	29	27
UK	388	409	385	11	11	13	20	328	251	312	348	290	303
EU	4,791	4,528	3,949	83	67	307	392	3,135	2,553	4,171	3,616	3,174	2,995