



# SEVESO INSPECTION GUIDE

SUPPORT GUIDE FOR THE CARRYING OUT OF  
TECHNICAL INSPECTIONS WITHIN THE SCOPE OF  
ARTICLE 28 OF DECREE-LAW 254/2007 OF 12<sup>TH</sup>  
JULY (AMENDMENT OF SEVESO II)

INSPECTORATE FOR THE ENVIRONMENT AND SPATIAL PLANNING  
MINISTRY FOR THE ENVIRONMENT, SPATIAL PLANNING AND REGIONAL  
DEVELOPMENT (MESPRD)

## **PRELIMINARY NOTE**

The intended use of the current working document is to support the Environment and Spatial Planning Inspectorate (hereinafter “IGAOT”), in the scope of the Inspectorate’s powers to carry out technical inspections in accordance with article 28 of Decree-Law 254/2007, of 12<sup>th</sup> July (hereinafter “SEVESO inspections”).

This guide is an update to a previous document (“*Support Guide for the carrying out of technical inspections within the scope of article 38 of Decree-Law 164/2001, of 23<sup>rd</sup> May (SEVESO II)*”, of January 2006) for the purposes of adapting to the new system of prevention of major accidents involving dangerous substances, established under Decree-Law 254/2007, of 12th July (amendment of SEVESO II).

It is stressed that, in spite of Decree-Law 254/2007 of 12th July revoking Decree-Law 164/2001 of 23rd May, the transitional system will still permit that some documents and procedures remain subject to the procedures laid out in Decree-Law 164/2001, of 23rd May. In those cases where this situation applies, it will be advisable to resort to the document “*Support Guide for the carrying out of technical inspections within the scope of article 38 of Decree-Law 164/2001, of 23rd May (SEVESO II)*”, of January 2006.

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## 1. BACKGROUND

Due to the increase in industrialisation after the end of the 2<sup>nd</sup> World War, there has been an increase in accidents involving hazardous substances. On 10<sup>th</sup> July 1976, in Seveso (Italy), an industrial accident occurred involving the release of toxic substances into the atmosphere, with serious human and environmental consequences.

The positive consequence of this accident was the start of European discussions on the prevention and control of major accidents caused by certain types of industrial activity. In 1982, **Directive 82/501/EEC** was published (the so-called Seveso Directive), of which there have been two subsequent adaptations (Directives 87/216/EEC and 88/610/EEC). This subject matter was regulated in Portugal in 1989 via the publication of **Decree-Law 204/93, of June 3rd 1993**, incorporating the second amendment to the Seveso Directive.

Meanwhile, the acquisition of experience and the occurrence of further accidents over the period of more than a decade, gave rise for the need to put a profound revision process into place, culminating in the adoption, on 9th December, 1996, of **Council Directive 96/82/EC** (the so-called Seveso II Directive). Additionally, as a legal and technical instrument, the Seveso II Directive constitutes a response to the obligations of the European Union within the sphere of the **UNECE Convention on the Transboundary Effects of Industrial Accidents (TEIA)**, signed on 18<sup>th</sup> March 1992, by twenty-six member countries, coming into effect on 19<sup>th</sup> April 2000. The objective of this Convention is the protection of humans and the environment against any incidental effects of transboundary industrial accidents and the promotion of cooperation between all Parties before, during and after any such accident.

In the light of the accidents in Toulouse (the release of ammonium nitrate), Enschede (explosives) and in Baia Mare (cyanide spillage), the Seveso II Directive was modified, via the publication of **Directive 2003/105/EC, of 16th December 2003**.

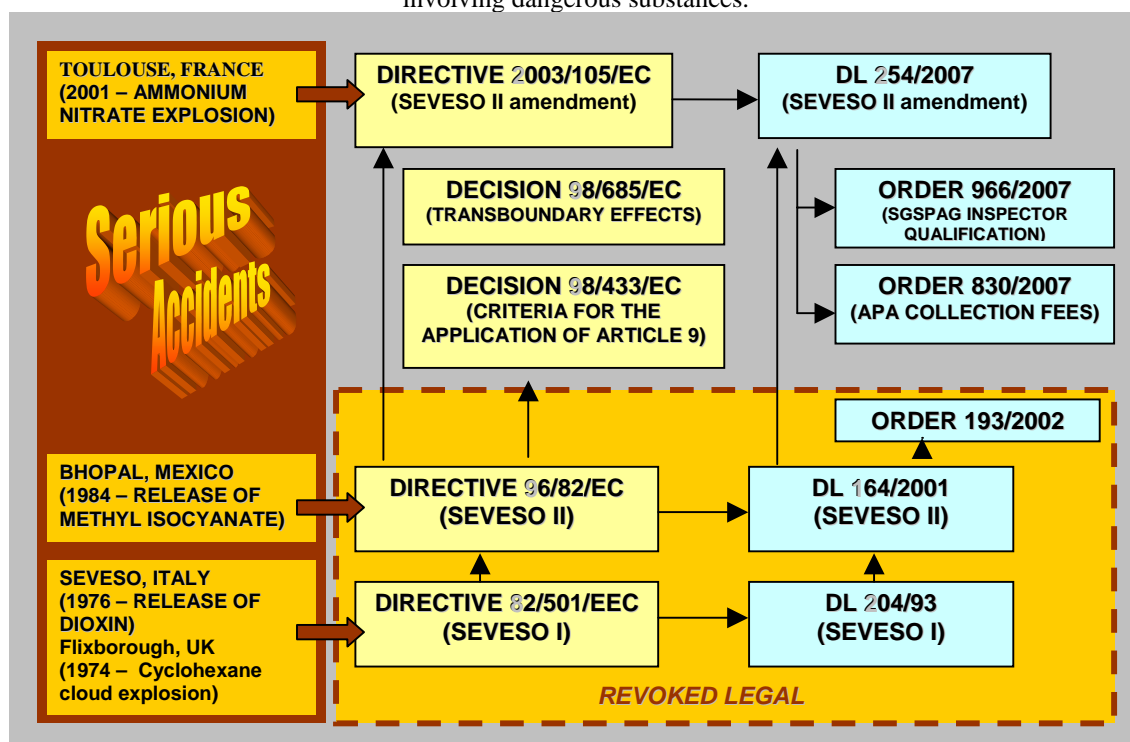
At national level, Directive 2003/105/EC, of 16<sup>th</sup> December 2003, was recently transposed into Portuguese law by the publication of **Decree-Law 254/2007 of 12<sup>th</sup> July**, hereinafter designated as DL 254/2007. This law has reconfigured the legal framework on to the prevention and control of hazards associated with major accidents involving dangerous substances, revoking **Decree-Law 164/2001, of 23rd May** (transposition of the SEVESO II Directive, hereinafter designated as DL 164/2001) and Order 193/2002, of 4<sup>th</sup> March, on accident report models.

Regulatory changes, in terms of the prevention of major accidents, are summarised in Table 1 and in Figure 1.

**Table 1 –National and Community legal framework on the control of hazards associated with major accidents involving dangerous substances.**

Description	National Framework	European Framework
Legal framework for the prevention of major accidents involving dangerous substances, including the limitation of any consequences to humans and the environment. (amendment of SEVESO II)	<b>Decree-Law 254/2007, 12<sup>th</sup> July (amendment of SEVESO II).</b>  Revokes <b>Decree-Law 164/2001, 23<sup>rd</sup> May (SEVESO II)</b> , as amended by Decree-Law 69/2003, 10th April. Also revokes <b>Order 193/2002, of 4<sup>th</sup> March</b> (detailed and summary major accident report models)  <b>Order 830/2007, of 1<sup>st</sup> August</b> (establishing the fees to be charged by the APA (Portuguese Environment Agency) under the terms of para. 1 of article 31 of Decree-Law 254/2007, for notification and SR (safety report) evaluation, in addition to qualification services). <b>Order 395/2002, of 15<sup>th</sup> April</b> will remain in effect until the entry into force of the orders outlined in article 31 of DL 254/2007.	<b>Directive 2003/105/EC, 31<sup>st</sup> December</b> (amendment of SEVESO II).  Revokes <b>Council Directive 96/82/EC, 9<sup>th</sup> December</b> (SEVESO II).
Requirements and conditions for acting as an SMSPMA inspector.	<b>Order 966/2007, of 22<sup>nd</sup> August</b>	--
Harmonised criteria for the granting of exemptions under the terms of article 9 of Directive 96/82/EC.	<i>(referred to in para. 3 of article 11 of Decree-Law 254/2007, 12/7 and in article 18 of Decree-Law 164/2001, 23/5)</i>	<b>Commission Decision 98/433/EC, 26th June</b>
UNECE Convention on the Transboundary Effects of Industrial Accidents	<i>(aspects relative to transboundary information established in article 25 of Decree-Law 254/2007)</i>	<b>Council Decision 98/685/EC, 20<sup>th</sup> March</b>

**Figure 1 – Regulatory pathway relative to the control of hazards associated with major accidents involving dangerous substances.**



DL 254/2007 introduced some amendments to DL 164/2001, retaining the prevention of major accidents and the limitation of their consequences as the main objectives, guaranteeing, as effectively as possible, a high level of protection for humans and the environment.

The changes introduced were aimed at making the implementation of the system more effective, and streamlining some procedures, namely:

- widening of the scope of application:
  - extension to storage and processing activities in the mining sector;
  - the revision of entries in Annex I in respect to ammonium nitrate and explosive substances;
  - the introduction of new designated substances in Annex I: potassium nitrate, kerosene and diesel oil, in addition to extending the list of carcinogens;
  - a significant reduction in the threshold quantities fixed in Annex I for environmentally dangerous substances;
- the issuing of an opinion that attests to the compatibility between new establishments and sensitive areas, issued in connection with an Environmental Impact Analysis, as and when applicable;
- a reduction in the frequency of revision of the Safety Report, which now becomes every five years;
- the introduction of a mandatory annual audit of the Safety Management System for the Prevention of Major Accidents (hereinafter “SMSPMA”) of establishments with higher hazard levels, prepared by the operator and developed by qualified inspectors;
- the inclusion of contributions from relevant personnel who work within the establishment to the preparation of emergency plans;
- clarification of the procedure(s) for those establishments belonging to the domino effect groups of companies;
- the introduction of an obligation to carry out various types of drills:

Type of exercise	Responsibility	Frequency	Communication with minimum notice of 10 days			
			APA	ANPC	Fire Brigade	IGAOT
Simple drill exercises within the scope of the IEP (Internal Emergency Plan)	Establishment operator	Annually	X		X	
“Domino effect” group - joint drill exercises	Operator of the establishment included in the “domino effect” group	Every 3 years	X	X	X	X
Drill exercises within the scope of the EEP (External Emergency Plan).	Municipal Civil Protection Service	Every 3 years	X	X		

In order to ease the transition between DL 164/2001 and DL 254/2007, the following transitional arrangements were set forth for the application of this framework (articles 37 and 38 of DL 254/2007):

1. For those establishments previously covered by DL 164/2001:
  - Notifications, major accident prevention policies, safety reports, emergency plans and information given to the public in effect under the terms of DL 164/2001 remain valid until the time of their replacement by force of the terms of DL 254/2007.
  - The safety reports and emergency plans presented under the terms of DL 164/2001, are to be re-examined and reviewed within the periods set forth in DL 254/2007.
2. For establishments not covered by DL 164/2001 and/or which have changed their classification pursuant to DL 254/2007, the document delivery deadlines are presented in Table 2.

**Table 2** - Deadlines for establishments not covered by Decree-Law 164/2001 and/or which have changed their classification pursuant to Decree-Law 254/2007.

Hazard level of the establishment	Documents to be presented to APA, via the Licensing Authority (ECL)	Deadline (counting from the date on which the law enters into force: 19/07/07)	Associated conditions and procedures (DL 254/2007)
Low Hazard Level (LHL) Establishments	Notification (presented to APA, via ECL)	three months (19/10/07)	Article 8; Annex II
High Hazard Level (HHL) Establishments	Safety report (presented APA, via ECL)	one year (19/07/08)	Article 12; Non-approval by APA could result in a proposal from IGAOT prohibiting the company from operating.
	Internal emergency plan (presented to APA and ANPC)	one year (19/07/08)	Article 18
	Necessary information for the preparation of an external emergency plan (presented to the Municipal Council)	one year (19/07/08)	Article 19

3. The first qualified inspector audit report of the Safety Management System for the Prevention of Major Accidents (hereinafter "SMSPMA"), referred to in paragraph 1 of article 16 of Decree-Law 254/2007, must be presented no later than 30<sup>th</sup> June 2008.
4. The provisions of Decree-Law 164/2001 apply to the procedures in effect as at the date of the entry into force of Decree-Law 254/2007.

During the period in which the transitional framework is in force, the legal framework of DL 164/2001 will be necessary. Inspectors are therefore advised to consult the previous version of this document: "*Support Guide for the carrying out of technical inspections within the scope of article 38 of Decree-Law 164/2001, of 23rd May (SEVESO II)*", of January 2006.

Table 3 summarises, with reference to the articles contained in the law, the aspects of the legal framework on the prevention and the control of hazards associated with major accidents involving dangerous substances (Decree-Law 254/2007), identifying the changes in relation to the articles of Decree-Law 164/2001.

**Table 3 -** Legal framework defined by DL 254/2007 (amendment of SEVESO II) and its correspondence with DL 164/2001 (SEVESO II).

Description	Decree-Law 254/2007 (amendment of SEVESO II)	Annexes and other documents	Decree-Law 164/2001 (Seveso II)
<b>Object</b>	Article 1		Article 1
<b>Definitions</b>	Article 2		Article 3
<b>Scope of application</b>	Article 3 (including the exclusions)	ANNEX I	Article 2; ANNEX I
<b>General duties of the operator</b>	Article 4		Article 10
<b>Prevention and control</b>	Article 5 (Municipal structure plans and urban development operations); Article 6 (Supplementary technical measures).	Orders for approval; Opinion request form; Business licensing or authorisation.	Article 4 (Land planning and urban development management); Article 21 (Relationship with authorisation processes).
<b>Notification</b>	Article 7° (Notification obligation); Article 8 (Notification procedure);	ANNEX II ( <i>new</i> )	Article 11; Article 12 (Deadlines); Article 13 (Supplementary notification).
<b>Major Accidents Prevention Policy (MAPP)</b>	Article 9	ANNEX III	Article 14; ANNEX II
<b>Safety Report</b>	Article 10 (Safety report); Article 11 (Safety report approval); Article 12 (Procedure); Article 13 (Re-examination of the Safety report); Article 14 (Revision of the Safety report); Article 15 (Disclosure of the safety report);	ANNEX IV; Guidelines published on the APA website; Commission Decision 98/433/EC (criteria for special situations).	Article 16; Article 17 (Analysis and acceptance); Article 18 (Special situations); Article 19 (revision and updating); ANNEX III.
<b>Audit</b>	Article 16	Order 966/2007, 22/08 (SMSPMA inspectors).	--
<b>Emergency Plans and Drills</b>	Article 17 (Emergency plans); Article 18 (IEP); Article 19 (EEP).	ANNEX V (IEP and EEP).	Article 22; Article 23 (IEP); Article 24 (EEP). Article 25 (Carrying out of drills); Article 26 (Re-examination of emergency plans); Article 27 (Activation of emergency plans); ANNEX IV.
<b>Information about self-protection measures</b>	Article 20 (Information about self-protection measures).	ANNEX VI (Information about self-protection measures)	Article 28 (Information to the public about self-protection measures); ANNEX V.
<b>Aggravation of risk</b>	Article 21 (“Domino effect” establishments).		Article 15 (“Domino effect”)
<b>Duties in accident situations</b>	Article 22 (Duties of the operator); Article 23 (Procedure in a major accident situation).	Forms available on the APA website.	Article 29 (Duties of the operator); Article 30 (Measures for mitigating the consequences of major accidents).

**Table 3** - Legal framework defined by DL 254/2007 (amendment of SEVESO II) and its correspondence with DL 164/2001 (SEVESO II) – Continuation.

Description	Decree-Law 254/2007 (amendment of SEVESO II)	Annexes and other documents	Decree-Law 164/2001 (SEVESO II)
<b>Information</b>	Article 24 (Access to information); Article 25° (Transboundary information); Article 26 (Information to be supplied to the European Commission); Article 27 (Duty to cooperate).	ANNEX VII;  Council Decision 98/685/EC, 20 <sup>th</sup> March.	Article 31 (Access to information); Article 32 (Operators' duty to release information to the public) Art 33 (Public participation); Article 34 (Consultation between European Union Member States); Article 35 (Information to the European Commission); Article 36 (Information exchange and system); ANNEX VI.
<b>Control instruments</b>	Article 28 (Inspection system); Article 29 (Prohibition to operate).		Article 37 (Inspection and supervision); Article 38 (Inspection system); Article 39 (Precautionary measures).
<b>Form of presentation of documents and fees</b>	Article 28 (Inspection system); Article 29 (Prohibition to operate).	Order 830/2007, 1/8 (Fees to be charged by APA); Orders to be published.	--
<b>Supervision and system of sanctions</b>	Article 32 (Supervision and inspection); Article 33 (Classification of the regulatory offences); Article 34 (Auxiliary sanctions and precautionary confiscation); Article 35 (Instigation of cases and levying of fines).	Law 50/2006, 29/08	Article 40 (Regulatory offences) Article 41 (Auxiliary sanctions); Article 42 (Allocation of the proceeds of fines); Article 43 (Presumption of the occurrence of the crime of pollution); Article 44 (Reinstatement of the situation to that prior to the infringement); Article 45 (Compensatory measures); Article 46 (Responsibility for damage to the environment).
<b>Final and transitional provisions</b>	Article 36 (Application of special regimes); Article 37 (Transitional regime); Article 38 (Procedures in progress); Article 39 (Revocation order); Article 40 (Autonomous Regions).		--
<i>Aspects that were incorporated into the descriptions of processes (which are included in the articles described above) and which in DL 164/2001 are described in individual articles:</i> <i>a) Competent authorities;</i> <i>b) Changes to the installation, the establishment or the storage area.</i>			Article 5 (Competent authorities); Article 6 (DGA); Article 7 (NSPVP); Article 8 (IAG); Article 9 (CoPRAG); Article 20 (Changes to the installation, the establishment or the storage area).

This document constitutes a technical guide of direct and general application to the inspection of establishments covered by Decree-Law 254/2007.

The purpose of this guide is to bring method, rigour and effectiveness to inspection activities in the context of the Prevention of Major Accidents (hereinafter “PMA”), and is aimed at the body of IGAOT inspectors operating in this area.

This document is organised into various chapters, supplemented by a series of annexes which are available in digital format.

Chapter 2 summarises the essential aspects for the development and the implementation of a SEVESO Inspection System, complying with Article 28 of Decree-Law 254/2007. Chapter 3 describes the profile of the inspector and/or inspection team charged with checking conformity with the legal requirements in relation to PMA, and also describes the various phases of carrying out a SEVESO Inspection.

Chapter 4 summarises the matters tackled during the inspection of a SEVESO establishment, distinguishing between establishments with high and low hazard levels.

## **2. SEVESO INSPECTION SYSTEM**

### **2.1. Objectives**

Pursuant to article 28 of Decree-Law 254/2007, IGAOT must implement an inspection system in respect of all the establishments covered by the law, without prejudice to other appropriate control methods used by the establishments in question.

The need for an inspection system was clarified by the Seveso II Directive, demonstrating its importance in terms of fulfilling the objectives of the Directive. The amendment of SEVESO II, transposed into Portuguese law by Decree-Law 254/2007, has reinforced the establishment and importance of the inspection system.

The inspection system must include an organisational structure, responsibilities, practices, procedures and resources to develop and implement an effective and consistent Inspection Program.

The design of the inspection system must permit the planned and systematic analysis of technical systems, organisation and management applied by the establishment in question so that the operator may demonstrate that:

- a) The information and data contained in the Safety Report or contained within other documents presented to the competent authorities faithfully reflect the true situation of the establishment;
- b) The information necessary for the preparation of the External Emergency Plans (EEP) (referred to in paragraph 1 of article 19) were sent to the municipal council;
- c) It has taken adequate measures for the avoidance of major accidents involving dangerous substances, taking into account the activities practised within the establishment;
- d) It has anticipated appropriate measures for limiting the consequences of major accidents involving dangerous substances, both inside and outside the establishment.

The inspections provided for in article 28 of Decree-Law 254/2007 do not substitute or prejudice the carrying out of inspections that occur within the sphere of the National Agency for Civil Protection (ANPC) and municipal councils within the ambit of protection and rescue; these entities have to circulate to IGAOT the reports prepared following these actions.

### **2.2. Scope**

Decree-Law 254/2007 lays down the general and specific duties applicable to the operators and competent authorities in preventing and limiting the consequences of major accidents.

Regarding inspection and supervision in compliance with the terms of Decree-Law 254/2007, IGAOT is the authority empowered with implementing an inspection system for establishments thus included, whilst at the same time not prejudicing the supervisory powers of other entities, under the ambit of the respective responsibilities and in terms of the law and in unison with IGAOT itself.

All public entities involved in the licensing or authorisation of the establishment's operation, must communicate to IGAOT any situations of which they may have knowledge that suggest the commission of an administrative offence legislated for in Decree-Law 254/2007.

Decree-Law 254/2007 applies to all establishments where dangerous substances are present or are likely to be produced as a result of an accident in quantities equal to or exceeding those indicated in column 2 of part 1 (Designated Substances) and part 2 (Categories of substances or preparations not specifically designated in part 1) in annex 1 of the law, or as the application of the additional rule stipulated in note 4 of the same annex so determines.

The included establishments (hereinafter "SEVESO establishments") are defined as follows: "the total area situated under the control of an operator where dangerous substances are present at one or more installations, including common or related infrastructures or activities" (article 2 of Decree-Law 254/2007).

SEVESO establishments were divided into two levels, based on the hazardousness of the establishment and by the quantity of dangerous substances present. An establishment with a high hazard level (hereinafter "HHL") is an establishment in which dangerous substances are present in quantities equal to or greater than those indicated in column 3 of parts 1 and 2 of annex I of Decree-Law 254/2007, or when it is thus determined by the additional law. SEVESO establishments which do not fit into the previous definition are establishments rated at a low hazard level (hereinafter "LHL").

Excluded from the scope of application of Decree-Law 254/2007 (article 3), are:

- Establishments, installations or storage areas belonging to the military, as well as public security forces (police).
- Hazards associated with ionizing radiation;
- Temporary intermediate transport and storage of dangerous substances by road, rail, air, inland waterways and sea, including loading and unloading activities and transference to and from other forms of transport within the docks, quays and railway station sorting facilities, outside SEVESO establishments;
- Transport of dangerous substances in pipelines including pumping stations, outside of the boundaries of SEVESO establishments;
- Prospecting, extraction and processing of minerals in mines, quarries or by means of boreholes, with the exception of chemical and thermal processing operations and the corresponding storage processes involving dangerous substances, under the terms of annex I of Decree-Law 254/2007;
- Offshore mineral prospecting and exploration, including hydrocarbons;
- The discharging of residues, with the exception of operational installations for the removal of tailings, including decantation basins and dams that contain dangerous substances, under the terms of annex I of Decree-Law 254/2007, especially when used in association with the chemical and thermal processing of minerals.

Articles 10 to 20 of Decree-Law 254/2007 only apply to High Hazard Level (HHL) establishments.

IGAOT may decide that the operator must supply all necessary supplementary information that will make it possible to evaluate the likelihood of the occurrence of a major accident involving dangerous substances and determine the possible increase in probabilities and/or the possible aggravation of the consequences of major accidents involving dangerous substances.

### 2.3. Inspection categories

According to the “IMPEL Reference Book for Environmental Inspections” (IMPEL, June 1999), two types of inspections can be distinguished: integrated inspections and specific inspections.

In an integrated inspection, conformity is verified with all the legal requirements applicable to the inspected establishment. Specific inspections approach specific subject(s), such as, for example, the requirements of Decree-Law 254/2007 applicable to the establishment being inspected.

SEVESO environmental and specific inspections are carried out in SEVESO establishments (inspections exclusively aimed at verifying compliance with Decree-Law 254/2007: SMSPMA verification and risk analysis, including the verification of legal requirements indirectly related to SEVESO). Besides the SEVESO inspections included in the IGAOT activities plan, specific SEVESO inspections are carried out in situations where accidents occur (for example; inspections carried out following the accident in Matosinhos).

Based on the report “*Inspectorate for the Environment and Spatial Planning (IGAOT) Activities within the scope of Decree-Law 164/2001, of 23<sup>rd</sup> May, during the year 2006*” (IGAOT/GEP), SEVESO inspections carried out by IGAOT can be classified as:

- *Notification Control Inspections* – verification of the notification sent to the Portuguese Environment Agency (APA, formerly the Institute for the Environment) from the point of view of the quantitative amounts and the hazardousness category classification of substances (Safety Data Sheet, hereinafter “SDS”), and verification of the labelling of dangerous substances;
- *Verification Inspections of the Safety Management System, or part thereof* - verification of part or all aspects of the SMSPMA, appropriate in terms of the prevention of the risk of major accidents (LHL and HHL establishments). Verification of information and data indicated in the Safety Reports, representative in terms of the establishment’s present situation (HHL establishments). In this case, the SMSPMA obligatorily includes the organisational structure, responsibilities, practices, procedures, processes and resources;
- *Inspections of Critical Units* – evaluation of the risks associated with the presence and operation of one or more critical units, verifying all or parts of the applicable SMSPMA;
- *Post-Accident Inspections* – after the occurrence of an accident; verification of the implementation of corrective measures, taking into account the “lessons” learned from the accident and the preventative measures introduced, so as to avoid the recurrence of the accident and/or limit its consequences for humans and the environment.

- *Order Compliance Inspections* – verification of compliance with the conditions imposed under the order issued in connection with compliance with Decree-Law 164/2001 or Decree-Law 254/2007.

The majority of SEVESO inspections cover more than one of these types of inspections, principally, verification of notification and of the SMSPMA, or part thereof, or verification of notification and of previously selected critical units.

## **2.4. Inspection Programme**

The Inspection Programmes must encompass the following activities:

- The planning and scheduling of inspections;
- The guarantee of inspector competence;
- The selection of appropriate inspectorial teams and the allocation of their roles and their responsibilities;
- The carrying out of follow-up inspections, where applicable;
- The maintenance of Inspection Programme records;
- The monitoring of the performance and effectiveness of the Inspection Programme, and
- The reporting of global Inspection Programme activities, via the preparation of a SEVESO inspection report.

### **2.4.1. Definition of the Inspection Programme**

In accordance with article 28 of Decree-Law 254/2007, the IGAOT inspection system can be applied through inspection programmes that cover all establishments, or through inspection programmes based on the systematic evaluation of the risk of major accidents involving dangerous substances associated with each establishment. IGAOT may request cooperation from the authority for working conditions, as and when necessary. The APA may also be involved in determining the frequency of inspections of SEVESO establishments to be considered in the IGAOT inspection programme.

Decree-Law 254/2007 defines a minimum frequency of once a year for the carrying out by IGAOT of an on-site inspection of each HHL establishment.

Inspection Programme objectives must be established in order to orientate the planning and conduct of the inspections.

The inspection programme must include the following components:

- Establishments to be inspected;
- Scheduling;
- Frequency of inspections;
- Necessary resources;
- Time limit for the inspection;
- Guidelines to be considered in the inspection;
- Priorities.

The Inspection Programme must take into consideration, as applicable:

- a) the legal and regulatory requirements underlying the PMA;
- b) local or national priorities defined in accordance with the evaluation of industrial risks and based on the hazard level of the installation, its location and the evaluation of environmental impacts;
- c) existing information and data from the previous inspection, in addition to other sources of information on the level of legal conformity of the establishments included.

Hence, the inspection priorities for an establishment should take into consideration the following aspects:

a) potential hazard or risk:

- the establishment's location (inhabited, protected or already polluted areas, or where there is a high density of industry);
- evaluation of hazards and risks;
- dimension, nature and complexity of the establishment;
- high hazard level establishments;
- lessons learned from accidents, incidents or occurrences at similar establishments/installations;

b) information and performance:

- previously non-inspected establishments/installations;
- experience acquired in previous inspections or via procedures for evaluating reports and licences;
- monitoring, auditing and revision reports of the operator's SMSPMA system;
- accident, incident and operational failure reports;
- received complaints;
- new scientific or technical knowledge;

c) changes:

- receipt of detailed information about a change;
- change of proprietor/management;
- report concerning modifications, rebuilding or extensions, etc;
- establishments subject to frequent changes in chemical processes;
- in the maximum quantities, or in the type of dangerous substances stored on the establishment's premises;
- significant changes in the organisational structure.

The Inspection Programme must include all SEVESO establishments, however, the need for the efficient utilisation of resources, together with other factors, determines the differentiation in the inspection approach between high and low hazard level establishments. The following factors in particular must be taken into consideration:

- More emphasis may be given to the gathering of information during the inspection of LHL establishments, given the fact that less information is sent by the operator to the competent authorities, than in relation to HHL establishments;
- The planning of inspections of HHL establishments must be given preference and, where resources allow, an annual on-site inspection;

- IGAOT must define the inspection approach in a clear and structured way so as to carry out a systematic evaluation, utilised to determine the frequency of inspections, including the evaluation criteria.

➤ Inspection Programme Responsibilities

Inspection Programme management responsibility must be assigned to one or more individuals with management capabilities and with a general understanding of inspection principles, inspector skills and capacities, and the application of inspection techniques.

Those who are nominated to manage the inspection programme must:

- a) Establish, implement, monitor, review and improve the inspection programme and
- b) Identify and ensure the supply of the necessary resources.

➤ Inspection Programme Resources

The following should be considered when identifying the resources for the inspection programme:

- The necessary financial resources to develop, implement, manage and improve the inspection activities;
- The inspection techniques;
- The processes for achieving and maintaining inspector proficiency and improving overall performance;
- The availability of inspectors and technical experts with appropriate proficiencies in terms of the specific objectives of the Inspection Programme;
- The size of the Inspection Programme, and
- Travelling time and other logistical needs of the inspections.

➤ Updating information:

The maintenance of information regarding the establishments to be inspected is essential for the inspection and the inspector. IGAOT, via the APA website, has access to an updated list of all SEVESO establishments (HHL and LHL).

Information should be updated in the following situations:

- by decision of the inspector following previous inspections;
- when changes occur at the installations;
- at the beginning of activities;
- in cases of accident/incident;
- during an inspection follow-up;
- when suspicions exist as to non-conformity.

In this field, it is essential to share information about the evaluation and management of industrial risks between competent authorities, within the scope of SEVESO inspections and associated topics. One of the methods of achieving this objective is through the creation of national central information centres with the aim of coordinating available information and its subsequent availability to national entities and the European Union.

➤ Methodology adopted by IGAOT during the 2002-2006 period:

A. 2002-2006 period:

With the approval of DL 164/2001 (SEVESO II), the following timescales were established:

- Submission of the Major Accidents Prevention Policies (hereinafter “MAPP”) of low hazard level establishments - 16/11/2001;
- Submission of the Internal Safety Reports and Emergency Plans of high hazard level establishments: 29/11/2001 (establishments already covered by SEVESO I) or 29/05/2002 (establishments not covered by SEVESO I).

As such, IGAOT started SEVESO II inspections in 2002, due to the expiry, in May 2002, of the final deadline allowed for the submission of the necessary documentation. In December 2003, by decision of the Secretary of State, the "SEVESO Working Group" was established, aimed at reconciling the activities of IGAOT and the IA (now called the APA), with each entity having two representatives.

The updated list of SEVESO establishments (LHL and HHL) was periodically supplied by the IA/APA, through publication on its website. In accordance with the 2004 list, there exists a national group of 121 SEVESO II establishments: 48 HHL establishments (classified by IGAOT as level 2 establishments) and 73 LHL establishments (classified by IGAOT as level 1 establishments). A further ‘0’ level was also created for establishments that are not included in the IA/APA list, but because of the quantity of dangerous substances (in existence in the respective installations), are warned that they may be included.

The 2002 Inspection Plan encompassed 56 SEVESO establishments identified on the list supplied by the IA. All SEVESO inspections not only involve questions associated with Decree-Law 164/2001, but also all other aspects associated with environmental inspection.

In defining the 2003 Inspections Plan, two scenarios were taken into account based on SEVESO establishments contained in the list supplied by the IA, but excluding those that had been the object of inspection in 2002:

- Scenario A – all SEVESO establishments, excluding those that had been inspected during 2002;
- Scenario B – the creation of priorities based on the magnitude and the relevance of the MAPPs of SEVESO establishments.

By taking into account the complexity and the lengthy duration of SEVESO inspections, IGAOT’s human resources capacity and the priorities established by it - IGAOT opted for scenario B.

In 2002, SEVESO inspections were carried out at 59 establishments identified on the list supplied by the IA (3 not on the plan) and 25 establishments were detected which were not on the IA list, but which could be covered by Decree-Law 164/2001 (level ‘0’ establishments). In 2003, 14 SEVESO level 2 establishments and 20 SEVESO level 1 establishments were inspected.

The definition of the establishments set for inspection in 2004 was carried out jointly by IGAOT and IA at “SEVESO Working Group” level. A decision was taken to inspect only level 2 establishments - those whose Safety Records had been previously analysed by the IA, including the issue of the respective opinion.

In terms of overall inspection ratio, SEVESO inspections were carried out at 41.2% of level 2 SEVESO establishments identified on the list supplied by the IA.

In addition, IGAOT included the level 2 SEVESO establishments in a theme-based campaign directed at the industries on the Estarreja Industrial Park.

In the second half of 2004, the occurrence of the accident at the Petrogal Company's Leixões oil terminal in Matosinhos on 31/07/2004, forced a change to the inspections plan in response to the Order by the Minister of the Environment, dated 10/08/2004. "Carrying out an inspection, within a period of 90 days, of the installations and transfer, supply, transport and storage of all products used in oil refineries and in all fuel storage establishments subject to Article 16 of Decree-Law 164/2001 and not inspected during the previous year", was established as a priority.

Accordingly, in 2004, 23 inspections were carried out at level 2 SEVESO establishments out of a total domain of 48 installations, these representing 48% of the total of this type of establishment, according to the list supplied by the IA.

#### *B. Year 2006:*

According to the list supplied by the IA (for the year 2006) of the total of 127 establishments covered by Decree-Law 164/2001, 54 fitted into category level 2 and 73 into category level 1.

In relation to IGAOT activity, Table 4 presents a summary of the trend in inspections of SEVESO establishments.

**Table 4** - Summary of inspection activity in relation to SEVESO establishments (2002-2006).

	SEVESO establishments (2006)	No. of establishments inspected					Total (2002-2006)
		2002	2003	2004	2005	2006	
<b>Level 1</b>	73	12	20	2	24	15	<b>73</b>
<b>Level 2</b>	54	23	14	23	17	12	<b>89</b>
<b>Warning (establishments at level 0)</b>	-	24	19	18	11	23	<b>95</b>
<b>Orders</b>	-	0	0	1	0	0	<b>1</b>
<b>Major accidents</b>	-	0	0	1	0	1	<b>2</b>

As can be seen, IGAOT has been able to fulfil the defined objective of carrying out at least one SEVESO inspection of all level 2 establishments within a period of three years.

In relation to level 1 establishments; IGAOT has fixed a period of four years (2002-2006) for the carrying out of at least one inspection of all the covered installations. However, the inspection of all level 1 establishments is only expected to be concluded by 2007, in other words, within a period of five years.

At the present time, IGAOT establishes SEVESO inspection planning priorities in the following way:

- carrying out inspections of units that have not previously been inspected, so as to ensure that all high hazard level and low hazard level units are inspected in terms of safety (consultation of the updated APA list of included establishments);

- carrying out inspections of units that have been recommended by the APA or by the ANPC as priorities in terms of inclusion in the plan, or following a request by the responsible Ministry.
- carrying out inspections of units that have been the subject of significant industrial accidents.
- carrying out inspections of units identified as critical in terms of safety in previous inspection activities.
- carrying out inspections of significant units in terms of safety, either because of their complexity/dimension, or as a result of the assessment of the associated hazards and risks, or because of its sensitive location (residential areas, industrial parks or protected areas).

Coordination and collaboration between national entities within the scope of SEVESO is achieved by means of the exchange of documentation and participation in working groups. The exchange of information, the establishment of strategic guidelines and the coordination of activities between the main competent authorities in this context (IGAOT, APA and ANPC) has been further promoted by the “Task Force” working group created in December 2003 by decision of the Secretary of State, which meets at least twice a year and whenever circumstances so require.

#### ***2.4.2. Implementation and revision of the Inspection Programme***

The implementation of an Inspection Programme must include the following:

- Communication of the Inspection Programme to all parties involved;
- The coordination and the scheduling of inspections and other relevant Inspection Programme activities;
- Establishing and maintaining a process for the evaluation of inspectors and for their continuous professional development;
- Confirmation of the selection of inspector teams;
- The provisioning of the necessary resources for the inspector teams;
- Confirmation of the conduct of inspections in accordance with the Inspection Programme;
- Confirmation of the control of records of inspection activity;
- Confirmation of the review and approval of inspection reports, including their distribution to inspected establishments, where applicable;
- Confirmation of follow-ups of inspections, where applicable.

The implementation of the Inspection Programme must be monitored and reviewed at appropriate intervals so as to evaluate whether its objectives have been attained and to identify opportunities for improvement.

Performance indicators may be used in order to monitor certain characteristics, such as:

- The ability of the inspectors and/or the inspection teams in terms of implementing the Inspection Programme;
- Compliance with the Inspection Programme and the inspection schedules;
- Return information from inspectors and inspected establishments.

The Inspection Programme review should take into account, for example:

- The monitoring results and trends;
- Compliance with procedures;
- The increasing needs and expectations of the interested parties;
- The Inspection Programme records;
- Any alternative or new inspection practices, and
- Consistency in terms of performance between inspectors and/or inspection teams in similar situations.

The results of the Inspection Programme reviews could lead to the identification of improvement opportunities, corrective and preventive actions and the improvement of the Inspection Programme.

### 3. SEVESO INSPECTION METHODOLOGY

This chapter contains a description of the SEVESO inspector / inspection team profiles and guidelines on the planning and conduct of this type of inspection.

#### 3.1. The SEVESO inspector and inspection team

##### ➤ *Profile of a SEVESO inspector*

The determining skills required on the part of the inspectors for the fulfilment of their inspection activities include characteristics which are both professional and personal. These skills are all the more important, the more demanding the work to be carried out, such as is the case with a SEVESO inspection.

A SEVESO inspector must have the appropriate qualifications, training and/or experience, as well knowledge of the legal requirements to be applied during an inspection, in addition to knowledge of the manufacturing processes of the establishments to be inspected.

An inspector must display different levels of maturity in different types of situations and in relation to different types of tasks. Above all, the inspector must have a high degree of personal and professional maturity, with sound scientific and legal knowledge and the experience to support the making of decisions. The most common criteria for carrying out such an evaluation are:

##### *Professional skills*

- Experience
- Planning ability
- Ability to solve problems
- Analytical ability
- Responsibility
- Thoroughness
- Decision making ability
- Good communication
- Ability to summarise

##### *Personal skills*

- Motivation
- Judgement
- Determination
- Firmness
- Persistence
- Ability to show initiative
- Independence and impartiality
- Ability to work in a team
- Discretion

The success of an inspection resides in the respect and credibility created by the inspector, who should have the appropriate technical knowledge and skills. In order to achieve this, the inspector must ensure clear and appropriate communication throughout the inspection. Because it is necessary to be prepared for various types of situations, the inspector must have previous training in:

- communication;
- the conduct of questionnaires and use of negotiation techniques;
- conflict management.

For SEVESO inspections in particular, inspectors and/or inspection teams must possess appropriate knowledge of the following aspects:

- Safety and Environmental Management Systems, taking into account the different standards (OHSAS 18001, NP 4397, ILO, ISO 14001, amongst others);
- Management System auditing techniques;
- Standards, guides and legal requirements to be used in evaluating conformity (aspects referred to in Annex II of this Guide);
- Characteristics and specifics of the manufacturing processes, operations and technical aspects related to the establishments to be inspected;
- Dangerous substances;
- Safety systems and rules in processing, storage, handling, transport and other operations that involve dangerous substances;
- The implementation of Decree-Law 236/2003, of 30<sup>th</sup> September (transposition of the ATEX Directive);
- Minimum safety instructions for the handling of work equipment and machinery (transposition of the Machinery Directive and the Work Equipment Directive);
- Quantitative Risk Analysis and predictive models of the consequences of accidents.

The requirement for a vast range of skills facilitates response to the variance of factors that can influence the work of an inspector, such as for example: legislation, politics, the attitude and performance of companies, the culture and the interested public.

In their normal roles, IGAOT inspectors are part of various different inspection services, which differ from one another in terms of industrial activity sector (Environmental Inspection Services). Currently, SEVESO inspections are assigned to the category B Inspection Service (SIB).

In this context, it is important to consider the specific and continuous training of inspectors who work and/or will work within the ambit of SEVESO inspections as a priority.

#### ➤ SEVESO Inspection Team

IGAOT is the competent authority for the inspection and monitoring of SEVESO establishments, and is able to request the participation of technicians and specialists from other State services or public bodies in inspection or monitoring activities, whenever such intervention is deemed necessary (article 32 of Decree-Law 254/2007).

According to the complexity of the inspection being carried out, it may be necessary to create a SEVESO inspection team that may or may not include external bodies or outside experts. In this situation, an inspection team leader must be appointed. Having decided on the size and composition of the team, it is appropriate to consider the objectives, field of activity, criteria and estimated duration of the inspection.

Before starting on an inspection involving an inspection team, the specific responsibilities of each team member should be made clear and the overall competence of the team should be ensured, taking into consideration the following steps:

- identification of the knowledge and skills required for the inspection to achieve its objectives;
- selection of the inspection team members to ensure that all the necessary knowledge and skills are present in the team.

Furthermore, it is important, right from the start, to obtain the agreement of all parties involved as to the specific responsibilities of each member.

The inspector and the inspection team are the most important resource for carrying out an inspection. Hence, starting from initial recruitment process, the continuous increase in skills associated with the offer of opportunities for development and progression, and group motivation, are important management tools for achieving the desired objectives.

IGAOT has been involved in this latter area since 2002 via the participation of inspectors in international projects linked to this subject (for example, the Mutual Joint Visit (MJV), the inspections system working group within the ambit of SEVESO (Technical Working Group 2 – TWG2), “Lessons learnt from accidents” seminars, amongst others) and also in the advent of international specialists to support Seveso inspections in Portugal within more complex sectors, as happened at a refinery and a chlorine production factory.

The TWG2 Working Group meetings cover one or more of the technical and thematic subjects referred to below in Table 5, and generally result in the preparation of inspection system support documents.

**Table 5** – Subjects for consideration at the TWG2 Working Group meetings.

<p><b>Technical topics:</b></p>	<ul style="list-style-type: none"> <li>- Chlorine;</li> <li>- Ammonia;</li> <li>- Hydrogen fluoride;</li> <li>- Sulphur dioxide;</li> <li>- Storage tanks for petroleum derivatives;</li> <li>- Liquefied Petroleum Gases;</li> <li>- Liquefied Natural Gas;</li> <li>- Unstable substances such as organic peroxides, nitrocellulose;</li> <li>- Intermediate substances;</li> <li>- Non-controlled reactions / batch processes;</li> <li>- Distilleries;</li> <li>- Storage of chemical products;</li> <li>- Fertilizer production premises.</li> </ul>
<p><b>Thematic topics:</b></p>	<ul style="list-style-type: none"> <li>- Permissible technical levels;</li> <li>- Inspection strategies (main topic for an MJV);</li> <li>- Safety management systems (main topic for an MJV);</li> <li>- Emergency plan and response (main topic for an MJV);</li> <li>- Inspector skills;</li> <li>- Inspection of LHL establishments;</li> <li>- LHL establishments - MAPP/SMSPPMA;</li> <li>- Risk assessment verification (main topic for an MJV);</li> <li>- Risk-based inspections;</li> <li>- Cooperation between authorities (main topic for an MJV);</li> <li>- Information management tools;</li> <li>- Enforcement (main topic for an MJV);</li> <li>- Domino effect;</li> <li>- Human factors (main topic for an MJV);</li> <li>- Lessons learned from accidents;</li> <li>- Lessons learned from inspections;</li> <li>- Safety report;</li> <li>- Information to be provided to the public;</li> <li>- Accident investigations (main topic for an MJV);</li> </ul>

Mutual Joint Visits have already taken place on the topics “Storage tanks for petroleum derivatives” (Belgium, December 2005), “Refineries” (United Kingdom, March 2006) and “Enforcement” (The Netherlands, November 2006). These MJV’s have produced publications on the topics: “Storage tanks for petroleum derivatives”, “Refineries” and “Enforcement of Seveso II – Improving effectiveness”.

In addition to this exchange at international level, the IGAOT 2007 Activities Plan proposed the creation of a working group to implement a way of classifying incidents/accidents and establish an IGAOT operational methodology for post-incident/accident inspections, including Seveso accidents.

### 3.2. SEVESO inspection phases

An inspection comprises four phases, as illustrated in Figure 2.

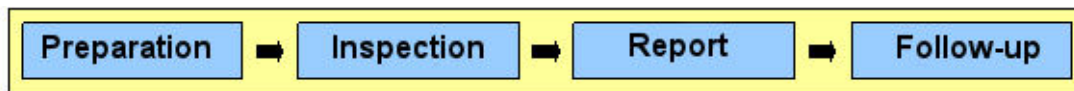


Figure 2 – Phases of an inspection.

#### 3.2.1 Inspection preparation

An inspection must be prepared and planned by the inspector(s). The preparation phase contributes, in great measure, to an inspection taking place in an appropriate and efficient manner. The degree of preparation depends on the type and complexity of the inspection in question.

In the planning, the objectives must be clear about to what is expected from that inspection. In defining the inspection objectives, it is necessary to take into account the risk analyses and the lessons taken from previous experience and inspections, and it is necessary to have a profound knowledge of the technical aspects, the company’s history, the relevant applicable legislation and the installation’s overall layout. Practical planning must also take place, including the preparation of the necessary equipment and safety aspects for the accomplishment of the inspection activities.

Prior to carrying out an inspection; the documentation available, either from IGAOT or from other official authorities, should be reviewed in order to determine its conformity with the criteria and the objectives of the inspection.

Administrative cooperation between the competent authorities within the scope of SEVESO is fundamental during this phase of the inspection. In the case of SEVESO inspections, there is regular cooperation between IGAOT and APA (due to the existence of a working group). Accordingly, prior to the carrying out of inspections, the inspectors may have access to:

- Notifications, MAPP, Safety Reports, and Internal Emergency Plans sent by the operator to APA;
- Analyses carried out by APA, documentation submitted by the operator and the exchange of correspondence between APA and the operator;
- An opinion on the analysis of SEVESO documentation (LHL or HHL) as part of the environmental licence of the SEVESO establishment “ whenever it is also covered

by Decree-Law 173/2008 of 26<sup>th</sup> August; it is necessary to present a chart identifying the dangerous substances, together with the respective maximum quantities and the hazardousness category;

- Support from the APA over difficulties due to the classification of dangerous substances.

Documentary analysis may also involve specific documents from the establishment in addition to documents from outside of the establishment, such as:

- Previous inspection reports on the same establishment or inspection reports on similar types of SEVESO establishment;
- Lessons learned from experience gained at national or international level in relation to major accidents likely to supply information for the inspection – consultation of accident/incident databases, specifically the MARS database. The person responsible on a national basis for MARS data reporting is Rui Simões (APA, [ruisimoes@apambiente.pt](mailto:ruisimoes@apambiente.pt)).

Inspection planning must also involve the preparation of working documents such as checklists, for example. In doing so, the inspector should adapt the existing checklists to the installation that is to be inspected. A detailed checklist, which may be used by the SEVESO inspectors, is presented in chapter 4 of this Guide.

The use of checklists must not restrict the scope of inspection activities; these checklists may be altered as a result of information compiled during the inspection process.

In the light of all the information collected during the planning process, the inspector decides how he/she wants to carry out the inspection and prepares the inspection plan. This plan can be changed during the visit to the establishment.

The inspection plan should be communicated to the operator so that it can make available all the necessary resources and documentation and give notice to the responsible parties, in order to optimise the inspection time.

### ***3.2.2 In situ inspection***

*“An inspection is not a courtesy visit or a business meeting. It is intended to compile facts and documentation and make observations. An inspection is a clear mission.”*

During the visit to the installations, the checklist should be used as a guide in order to fulfil the inspection objectives/plan, and all items should be checked and all evidence recorded.

Figure 3 illustrates an inspection procedure in diagrammatic form.



**Figure 3** - Procedure for an *in situ* inspection.

An inspection should pass through the following stages:

***Phase 1: Inform the establishment's Management that an inspection is going to occur, explaining the procedure and overall objective.***

On arrival at the company, the responsible person in the establishment must be informed that an inspection is going to take place, together with its objective and the procedures to be followed.

An initial meeting should therefore be held at which the presence of the company's top management or its representative is recommended, with the following objectives:

- Communication of the objective of the inspection;
- Confirmation of and comments on the inspection plan;
- Concise presentation of the methodology to be used in carrying out the inspection;
- Confirm the communication channels and possible forms of management of the time;
- Provide the company with the opportunity to raise questions.

It is the intention of IGAOT that in future SEVESO inspections will be notified in advance to the entity to be inspected where this involves a specific SEVESO inspection. In situations where a SEVESO inspection is included in an environmental inspection of broader scope, there will be no prior notice given to the entity to be inspected. However, the decision on prior notice should be examined on a case by case basis.

***Phase 2: Carry out the inspection, verifying legal conformity and clarifying any non-compliance situations.***

The main objective of a SEVESO inspection is to gather information in order to evaluate compliance. Thus, the inspector must search for objective evidence and gather information by various means, in particular through:

- Manager and employee interviews;
- Paralanguage and body language;
- Critical analysis of documents;
- In situ observation during the inspection.

An initial check as to the conformity of the documentation should be carried out at this stage. The inspector must evaluate three aspects in relation to the existence of procedures:

- The definition of procedures and operational instructions;
- The implementation of procedures and operational instructions;
- The maintenance of procedures and operational instructions.

During the visit to the installations, all situations which could give rise to legal non-compliance, incorrect practices and situations suggesting the existence of a significant and immediate risk should be recorded and discussed with the person accompanying the inspection process.

This could be the most protracted phase due to the inspector having the power to access the various areas of the installation, such as the manufacturing section, storage areas, laboratories and other areas which support the establishment's overall operation.

An inspection should involve dialogue in which questions should be raised in an open way so that the interviewees can explain the methods defined for the management of risks and the establishment's organisation, and present and comment on the existing documents.

The inspection methodology should consist of the gathering of information in support of the operator's response to the SEVESO requirements, followed by checking of key points or by sampling during the course of the inspection.

The gathering of samples for subsequent laboratory delivery may take place during the inspection process. Where waste water or other types of liquid samples are collected, three different samples should be taken: one sample for IGAOT to send for analysis, a second for the company (where the operator so wishes) and a third sample for independent analysis where IGAOT's and the operator's results are clearly different (reference sample). The samples must be sealed and signed by both parties, with a Collection Notice drawn up and signed by the same parties.

Where samples are gathered and/or measurements are made in an area with certain pollution parameters, collection notices must be issued per individual source/sample. Another way of validating some of the verified situations is by means of photos or videos, taking care to use cameras that automatically register the date and time. It is worth noting, for safety reasons, that there may be areas where all equipment must be "explosion-proof", as defined in the Explosion Protection Manual (implementation of the ATEX Directive).

After the in situ inspection is finished, the inspector, drawing on his notes and by reference to a checklist, proceeds to make the final clarifications and collection/analysis of documentation not yet previously made available/analysed.

**Phase 3: Inform the contact person and/or the Management of the establishment as to the inspection's preliminary conclusions and the next steps to be taken.**

The responsible person or his substitute must be informed of the preliminary conclusions of the inspection. Where an inspection has been carried out by a team, the presentation of the conclusions of the inspection must be preceded by a team meeting to discuss any potential non-conformities or non-compliances detected.

Thus, the closing meeting serves as a means of presenting the results and conclusions of the inspection so that they may be understood and discussed by the inspected

organisation, in addition to establishing timescales for implementing corrective actions. Conflict-laden and unproductive discussions with the operator must be avoided.

Strong points should be emphasised where applicable. Positive appreciation encourages the operator and also has indicative value to the agents thus involved.

The inspector should inform the operator of the steps that follow the inspection process.

### ***3.2.3 Preparation of the Inspection Report***

The work carried out during an inspection is recorded in a report with the objective of making a factual and ordered record of what occurred and the findings; and the report should identify the inspector and/or team that carried out the inspection. The inspection report should be prepared as quickly as possible whilst the facts are still present in the memory of the intervening parties.

An inspection report should be:

- Precise – all information must be factual and result from the inspection;
- Relevant – the recorded information must be pertinent to the objectives of the inspection;
- Exhaustive – the recorded information must be plausible;
- Ordered – all information relating to a certain objective must be in the same area of the report. Support documentation, such as photos and various other types of documents, must be clearly referenced and identified;
- Objective – the information must be objective and factual, not leading to prejudged conclusions;
- Clear – the information must be clear, explicit and well organised;
- Legible - some time should be devoted to this aspect of the report. It should be straightforward, pleasant and easy to read.

There are a number of elements that must feature within the report:

- Presentation of the objectives, inspection team, method(s) used and the inspection planning process;
- General information concerning the establishment, such as its identity, history, description of activities, responsible parties and the persons participating in the inspection;
- Description of the inspection;
- Facts observed, evidence gathered/recorded (samples, photos);
- Documentation analysed and legal references considered;
- Summary of conclusions:
  - Appraisal of the inspection and the involvement of the operator;
  - Strong points and technical recommendations in terms of possible improvements in the operator's performance and in the prevention of major accidents;
  - Findings: result of the inspection, infringements in legal compliance (notification) observed and reference to questionable aspects in applying the legislation (letters of notification);

- A preventive or precautionary measure can be applied, with a deadline for correcting the situation, if and when a serious situation is detected. In circumstances of extreme seriousness, the inspector may order the sealing of the industrial unit's installations.

IGAOT has prepared a specific report on SEVESO II inspections ("Seveso Report", the form for which is available on the IGAOT database, on the GESTIGA system). The "Seveso II Report" is undergoing revision with the aim of adapting it to the changes resulting from Decree-Law 254/2007. Presented in the annexes are two versions of the Seveso report, together with some opportunities to improve it (Annex IV).

### ***3.2.4 Inspection follow-up***

The report of each inspection is subsequently sent to the operator, with recommendations for improvement and correction of any shortcomings identified during the inspection. In accordance with article 32 of Decree-Law 254/2007, IGAOT must circulate the report to APA, ANPC, the Municipal Council and the ECL.

The conclusions of the inspection may indicate the need for corrective, preventive and improvement actions, as applicable. In these cases, the following actions may be initiated following the inspection:

- The operator should define corrective actions in terms of the shortcomings identified during the inspection. Corrective actions must be defined on a cause analysis basis, so as to resolve the shortcomings identified during the inspection and also to avoid their recurrence.
- The inspector and/or inspection team may validate the corrective actions plan defined by the operator and verify its implementation within the periods established, through requests for information, follow-up inspections or other mechanisms, depending on the shortcomings detected.
- The completion and effectiveness of the corrective action may be verified using an appropriate procedure. This verification should form part of any subsequent inspection.

After a reasonable period of time has passed since an inspection, IGAOT may carry out follow-up inspections - especially where recommendations on the safety of the establishment have been made in previous inspections.

Where a letter of notification has been prepared, it will be sent to the operator. In these situations, a period is granted for submitting the information required for determining the applicability of certain legal requirements which was not made available during the inspection.

The response by the operator to this type of letter will be studied by the inspector (who carried out the inspection) who then verifies whether the demands in the letter have been complied with or not.

The operator is immediately informed when the requests made in the notification letter are fulfilled.

If the inspector considers that the letter has not been properly complied with, an administrative offence proceeding is initiated on the basis of information prepared by

him. This administrative offence proceeding may run in parallel with any administrative offence proceeding initiated following the notification drawn up whenever infringements of Decree-Law 254/2007 of 12th July are detected.

Also, an administrative offence proceeding is immediately initiated in situations where the company does not send any form of response within the period allowed, pursuant to the terms of paragraph 2 of article 18 of Law 50/2006, of 29<sup>th</sup> August.

In addition, where precautionary or preventive measures are issued, they are verified by carrying out a new inspection of the installation.

### 3.3. Evaluation criteria

Special attention should be given to the classification of identified shortcomings, based on their relevance in terms of an establishment's safety management.

The correct classification of shortcomings will allow the appropriate corrective and/or preventive measures to be defined and established, as well as deadlines for implementation which are aligned with their seriousness, with the ultimate objective always being a high degree of protection for people, goods and the environment.

The inspector should analyse the objective evidence gathered during the inspection process so as to document the shortcomings and/or legal non-compliances. The inspector should then classify any deviations detected based on criteria such as:

- The level of seriousness in terms of the current legal framework;
- Recurrence of the situation observed in previous inspections;
- Repetition and accumulation during the inspection of the observed situation;
- Risk (probability and seriousness) of the observed anomalous situation.

Chapter X of Decree-Law 254/2007 defines the monitoring measures and the sanctions regime applicable to establishments within the scope of PMA. Table 6 summarises the legislative references of the infringements outlined in article 33 of Decree-Law 254/2007 and the corresponding classification of the administrative offences.

**Table 6** – Administrative offences defined in article 33 of DL 254/2007.

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
Measures for the prevention of major accidents involving dangerous substances and limiting their consequences for humans and the environment	2.a)	para. 1, art. 4	Non-compliance with the obligation to adopt necessary measures.		X
	1.a)	para. 2, art. 4	Non compliance with the obligation to demonstrate to APA, IGAOT and ANPC that it has taken the measures which it is obliged to take	X	

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
Characteristics of the establishment	2. b)	para. 4, art. 5	Installation, alteration, modification or extension of the establishment without a prior opinion by APA		X
Supplementary technical measures	2. c)	art. 6	Non-adoption of supplementary technical measures (to be defined by Order), where it is not possible to guarantee the existence of safety distances in relation to vulnerable elements		X
Notification	1. b)	para. 1, art. 7; para. 3, art. 37	Non-compliance with notification obligations (presentation to the APA by stipulated deadlines)	X	
	1. c)	para. 2, art. 7	Non-compliance with the obligation to update notification content (presentation to the APA by stipulated deadlines)	X	
	1. d)	para. 3, art. 7	Non-compliance with the obligation to provide advance notice of the definitive closure of the installation (presentation to APA and, in the case of HHL establishments, to ANPC also)	X	
MAPP	2. d)	art. 9	Non-compliance in preparing the MAPP (Annex III) within the stipulated timelines		X
	1. e)	n° 3, art. 9°	Non-compliance with the obligation to re-examine or review the MAPP	X	
SR/ SMSPMA	2. e)	art. 12	Installation, start-up or continuance of operation, alteration, modification or extension of an establishment, without prior approval of the RS, or in violation of the respective conditions.		X

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
	2. f)	para. 2, art. 12	Non-compliance with the obligation to present, within three months, the SR of an establishment may have moved to the High Hazard Level due to a change in the classification of hazardousness of the substances.		X
	2. g)	para. 4, art. 37	Non-compliance with the obligation to present, within one year, the SR of an establishment may have become covered by such obligation pursuant to the introduction of Decree-Law 254/2007		X
	2. h)	para. 2, art. 12; para. 5, art. 37	Non-compliance with the prohibition of an establishment to operate, following an unfavourable opinion on the SR presented to the APA		X
	1. f)	paras. 1 and 3, art. 13	<b>Non-compliance with the obligation to re-examine the SR or, if necessary, alter the SR and the SMS.</b>	X	
	1. g)	para. 2, art. 13	Non-compliance by the operator with its obligation to supply all information relating to the alteration of the SR	X	
	1. h)	para. 1, art. 14	<b>Non-compliance with the obligation to review and update the SR</b>	X	
<b>SMSPMA audit report</b>	1. i)	<b>Art. 16</b>	Non-presentation of the report of the audit on the SMSPMA carried out by a qualified APA inspector	X	

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
<b>IEP</b>	1. j)	para. 5, art. 17	Non-compliance by the operator with its obligation to review and update the IEP	X	
	2. i)	para. 1, art. 18; para. 6, art. 37	Non-compliance with the obligation to present an IEP		X
	1. l)	para. 4, art. 18	<b>Non-compliance with the obligation to carry out annual IEP drills</b>	X	
	1. m)	para. 5, art. 18	Non-compliance with the obligation to send relevant information relating to the updating of the IEP	X	
	1. n)	para. 5, art. 18	Non-compliance with the obligation to make changes to the IEP	X	
	1. o)	para. 6, art. 18	Non-compliance with the obligation to review and update the IEP	X	
	1. p)	para. 7, art. 18	Non-compliance with the obligation to send the results of revision of the IEP	X	
<b>Information necessary for the preparation of the EEP</b>	2. j)	para. 1, art. 19; para. 7, art. 37	Non-compliance with the obligation to supply to the municipal council the information necessary for the preparation of the EEP (in three situations)		X
	1. q)	para. 9, art. 19	Non-compliance with the obligation to update, at the municipal council, the information supplied for the preparation of the EEP (prior to the introduction of a substantial change or as a result of information made available by the "domino effect" establishments)	X	

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
<b>“Domino effect” establishments (notified by the APA)</b>	1. r)	paras. 3, 4 and 5, art. 21	Non-compliance with the obligation to send information, within the stipulated timescales, to establishments forming part of its “domino effect” group, or to send to APA proof of sending of the information	X	
	2. l)	para. 9, art. 21	Non-compliance, by the operator of an HHL establishment forming part of a specific "domino effect" group, with the obligation to carry out joint simulation exercises of the application of the IEP		X
	1. s)	<b>para. 4, art. 18; para. 9, art. 21</b>	Non-compliance by the operator of an HHL establishment with the obligation to notify the carrying out of simulation exercises of the application of the IEP	X	
<b>Previously occurring accidents</b>	2. m)	<b>para. 1 a), art. 22</b>	<b>Non-compliance with the obligation to put emergency mechanisms into immediate effect, in the event of a major accident involving dangerous substances</b>		X
	2. n)	para. <b>1 b), art. 22</b>	Non-compliance with the obligation to immediately communicate to the municipal civil protection service the occurrence of a major accident involving <b>dangerous</b> substances		X
	2. o)	<b>para. 1 c), d) and e) of article 22</b>	Non-compliance with the obligation to communicate information or send reports to APA within 24 hours		X
	2. p)	<b>para. 2 of article 22</b>	Non-compliance with stipulated obligations in the event of uncontrolled incidents		X
	1. t)	<b>para. 1 f), art. 22</b>	Non-compliance with the obligation to update and send information to APA	X	

Aspect to verify	Legislative reference		Legislated infringements	Classification of administrative offences (AO)	
	Art. 33	Art. Ref.		Serious AO	Very Serious AO
Aspects arising from IGAOT intervention	2. q)	para. 1 or 2, art. 29	Non-compliance with the prohibition of an establishment to operate, imposed by: <ul style="list-style-type: none"> <li>- clearly insufficient prevention measures;</li> <li>- failure to submit obligatory documentation within the legal periods</li> </ul>		X
	1. u)	para. 8, art. 28	<b>Non-compliance with the obligation to supply supplementary information to IGAOT</b>	X	

Infringements detected during SEVESO inspections give rise to the issuing of notifications and the institution of administrative offence proceedings.

Following the institution of an administrative offence proceeding, there is the opportunity for the infringing party to make voluntary payment of the fine, which may occur at any period during the proceedings, provided that it is during an phase prior to the decision (pursuant to article 50-A of Decree-Law 433/82 of 27<sup>th</sup> October, as amended by Decree-Law 244/95 of 14<sup>th</sup> of September), or, alternatively, contest it in the courts (where the party does not agree with the administrative decision to issue a fine).

In these situations, the role of the reporting officer/inspector is of particular importance, due to the fact that as a rule the officer's presence is generally required at a court hearing. The judge can absolve companies, confirm the fine or reduce it. Although cases of fines being confirmed have been increasing, there are still cases where fines have been reduced and cancelled.

## 4. SEVESO INSPECTION CONTENT

The basic objective of an inspection is to examine, in a planned and systematic manner, the technical, organisational and management components of the system implemented within an installation, verifying whether the operator can demonstrate that all possible measures have been taken for the prevention and limitation of major accidents and their consequences to achieve high levels of protection for humans and the environment.

As previously stated, IGAOT must assure the proficiency of SEVESO inspectors and inspection teams so as to guarantee consistent and effective inspections.

However, ensuring effective and consistent checks and analyses is also dependent on the definition and use of appropriate criteria for the technical, organisational and management analysis of the systems, and on the development of specific tools and methods for inspector use (for example; manuals, checklists, risk criteria, databases and software, etc.).

The current chapter presents a series of issues aimed at providing technical support during the carrying out of a SEVESO inspection. Annex II presents the reference legislation which may be verified during the course of a SEVESO inspection.

### 4.1. Environmental inspections with SEVESO verification

During the course of an environmental inspection of an establishment that is not identified as covered by Decree-Law 254/2007 (which does not feature in the list of SEVESO establishments made available by the APA), the inspector should check that there is a possibility of it constituting a SEVESO establishment by virtue of the quantities of dangerous substances present in the installations.

In these situations, the inspector should request from the operator, via notification (letter of notification), an inventory of the dangerous substances present in the installations as well as evidence of the analysis of the applicability of Decree-Law 254/2007 (calculations relating to the accumulation of dangerous substances), in accordance with article 3 and Annex I of that law. This inventory must be sent to the APA, with a copy also to IGAOT.

For those establishments that are not contained on the APA list, but because of the quantity of dangerous substances present have been the subject of notification since they might be covered, IGAOT has created a third classification level: level '0' establishments (potentially covered by SEVESO). During the year 2006, IGAOT issued 23 warning letters in compliance with article 11 of Decree-Law 164/2001.

The definition of “dangerous substance” within the meaning of sub-paragraph n) of article 2 of Decree-Law 254/2007 is: substances, mixtures or preparations listed in part 1 of annex I or which meet the criteria outlined in part 2 of the same annex and which are present or forecast in the form of raw materials, products, by-products, waste or intermediate products, including those which it is reasonable to suppose will be produced in the event of an accident.

The inventory of dangerous substances present at installations must include the following information:

- the identification of all dangerous substances by their chemical name, chemical composition, CAS number and EC number (EINECS or ELINCS), Indexation number of each substance or component of the preparation, as well as the physical form;
- hazardness classification of the “dangerous substances” in accordance with current legislation on the Classification, Packaging and the Labelling of Dangerous Substances and Preparations (consult annex II of the current document for more information);
- confirmation as to the identification of dangerous substances or as to the category of the dangerous substances in question, by means of the respective Safety Data Sheet, where applicable;
- the “maximum quantities” (in bulk) of each “dangerous substance” which are present or likely to be present at any moment in the installation. For example, where a substance is stored in a tank, the maximum useful capacity of the tank will be considered.

Relative to the analysis of applicability, the APA has made a “Guide for verification as to the applicability of Decree-Law 254/2007 of 12<sup>th</sup> July” available on its website to guide the inspector in such matters.

If an establishment has demonstrated that specific substances which are present on its site or that one or more parts of its establishment are not likely to create the risk of a major accident involving dangerous substances, and has been granted exemptions by the APA under the terms of paragraph 3 of article 11 of Decree-Law 254/2007 and Decision 98/433/EC of 26<sup>th</sup> June (harmonised criteria for the granting of exemptions pursuant to article 9 of Directive 96/82/EC), the inspector should verify the veracity of the supporting information presented by the operator.

#### **4.2. Routine SEVESO inspections**

Inspections of SEVESO establishments contained in the IGAOT Activities Plan are considered as routine SEVESO inspections and may be carried out on LHL and HHL establishments.

During the course of a SEVESO inspection, the operator must demonstrate that it has taken the necessary measures to avoid major accidents involving dangerous substances and to limit their consequences for humans and the environment, evidencing the establishment's level of safety and its capacity to respond to the possible occurrence of an accident.

Taking into account the two established requirement levels based on the establishment's hazardousness rating (LHL or HHL), the obligations of operators of SEVESO establishment can be summarised as follows:

- a) Obligations common to all included establishments (LHL and HHL):
- Evaluation of the location's compatibility (article 5);
  - Notification (article 7);
  - Major accident prevention policy - MAPP (article 9);
  - Domino effect: exchange of information (article 21);
  - Obligations in the event of a major accident: action and communication (article 22).

b) Obligations of establishments at High Hazard Level (articles 10 to 20);

- Safety Report (articles 10, 13 and 14);
- Audit of the Safety Management System for the Prevention of Major Accidents (article 16);
- Internal Emergency Plan: preparation, review and update (articles 17 and 18);
- Internal Emergency Plan drills (article 18);
- Elements for the preparation of the External Emergency Plan: preparation and update (article 19);
- Domino effect (for establishments identified by the APA); exchange of information and joint Internal Emergency Plan drills (article 21).

The main elements that should be considered during a routine SEVESO inspection are summarised below, in relation to:

- Analysis of the establishment's Safety Management system;
- Verification of the information made available by the establishment.

#### ***4.2.1. Analysis of the establishment's Safety Management system***

Aspects relating to the safety management of the establishments must be verified during a SEVESO inspection.

Establishments covered by Decree-Law 254/2007 (LHL and HHL) must define, document and implement a MAPP involving dangerous substances in accordance with the principles outlined in Annex III of that law.

The implementation of a certain establishment's MAPP necessitates adequate means, structures and safety management system, i.e. it is dependent on the integration of the safety component in the establishment's global management. Thus, SEVESO establishments, including Low Hazard Level establishments, must implement an SMSPMA matched to their major accident risks. The SMSPMA includes the organisational structure, responsibilities, practices, procedures, processes and resources that make it possible to define and implement an MAPP.

It is worth stressing that any SMSPMA is a constituent part of the establishment's global management system, reflecting the philosophy, system and culture of global management matched to the work and process technologies involved.

The SMSPMA can also be integrated with other subsystems such as health and safety at work, environment, quality, etc. Annex III of this document describes the main aspects of an SMSPMA and the relationship between the requirements of Decree-Law 254/2007 and the main standards governing certification of Management Systems (ISO 9001, ISO 14001 and OHSAS 18001/NP4397).

In fact, it is possible to develop an SMSPMA by widening the scope of the existing management system, but it remains the responsibility of the operator to guarantee and demonstrate, where necessary, that the management system was correctly and fully developed so as to include the control of major accidents, and that it meets the requirements of the current regime.

An SMSPPMA aimed at the prevention of major accidents involves activities that directly ensure the adoption of measures necessary for the control of major accident risks (*preventive activities*) as well as activities that constitute the reference framework in which preventive activities are developed, implemented and improved (*systemic activities*).

Preventive activities include:

- The definition of measures – defining the need to take measures (as a result of risk analysis) and choosing the nature and quality of the measures to be taken in order to respond to the defined needs (as a result of the application of the general principles of the prevention hierarchy and of risk assessment);
- The implementation of the measures – a phase in which measures already defined on paper are put into practice on a basis of detailed specifications resulting from the risk analysis;
- Maintaining measures - maintenance of the implemented measures in order to ensure that they continue in operation (whenever risk may exist), and that they fulfil their purpose.

Preventive activities are implemented at the following levels:

- Process installations, including all equipment that is used for the storage and handling of chemical substances (production process, storage and shipment in tanks and packages), as well as the choice of process (substances used, reactions, working conditions, etc.);
- Operational procedures and instructions;
- Measures for hazardous activities (non-routine activities, for which measures must be specified on a case-by-case basis);
- Emergency planning (measures to be taken based on the analysis of residual risks, risks that persist even after all measures for the prevention of major accidents have been taken; the creation of typical accident scenarios);
- Personal Protective Equipment (PPE).

Table 7 presents some examples of the definition of preventive activities.

**Table 7** – Examples of major accident preventive measures.

	<b>Definition of measures</b>	<b>Implementation of measures</b>	<b>Maintenance of measures</b>
Process installations	Include a “safety project” at the planning stage	Reduce the degree of freedom in the definition of the essential safety characteristics of the process installations at project execution and construction levels (e.g. definition of process pressures, choice of construction materials and reliability of safety instrumentation circuits, etc.)	Installations must be inspected and maintained in such a way as to guarantee the initially defined specifications (by means of preventive and corrective maintenance and the modification of preventive measures).
Operational procedures and instructions	Definition of operational procedures and instructions – process operation (activities generally managed from a control room and which are part of the control and safety system of the installations) and manual activities	The implementation of operational procedures and instructions	Maintenance of operational procedures and instructions
Hazardous activity measures (e.g. non-routine activities)	Definition of measures for hazardous activities (measures that ensure that the installation in which activities occur is safe and the measures to be taken by those that carry out such work) E.g. Work authorisations	Implementation of measures for hazardous activities	Maintenance measures for hazardous activities

An SMSPPMA designed to respond to the requirements of Annex III of Decree-Law 254/2007 must include at least the following systemic activities:

- Policy for the prevention of major accidents involving dangerous substances;
- Organisation and personnel;
- Identification and evaluation of the risks of major accidents involving dangerous substances;
- Operational control;
- Modifications management;
- Emergency planning;
- Performance monitoring;
- Audit and review.

Table 8 shows a range of aspects to be checked during a SEVESO inspection in relation to each one of these points.

The checklist presented in Table 8 should be supplemented by other supplementary checklists, such as checklists of the applicable legal requirements and other available specific lists.

In terms of the checklist of applicable legal requirements, the inspector should consult Annex III of this Guide, where the legal requirements in relation to PMA are summarised. It is also worth consulting the “Environmental File” - the list published by IGAOT referring to the documents to request during a routine inspection.

In this context, IGAOT also makes available the following support documentation:

- 1) SDS – Practical guide.
- 2) Comparison of the SDS requirements in current Portuguese legislation with those of REACH.
- 3) Hazardousness of designated substances (Part 1 of Decree-Law 254/2007 of 12<sup>th</sup> July) with preparation of a framework comprising: Substance Name, CAS Number, Appearance, Principal Uses, Hazardousness Category, Risk Phrases, Safety Phrases, Handling and Storage, Measures to be taken in cases of Accidental Escapes, Fire and Explosion.
- 4) Handling and storage of liquids and liquefied gases:
  - 4.1 – Storage of containers inside and outside buildings - Checklist.
  - 4.2 – Storage in tanks – Checklist.
  - 4.3 – Loading and unloading operations – Checklist.
- 5) Checklist for each type of dangerous substance in accordance with current legislation.
  - 5.1 – Subterranean storage of Natural Gas in Saline Formations.
  - 5.2 – Storage of explosives.
  - 5.3 – Storage of LPG.