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Good Practice Report – Information to the Public on Seveso Directive Hazardous Sites

A Seveso Inspection Series Publication

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Abstract

This report aims to provide guidance for EU Seveso and other hazardous site inspectors on the enforcement of requirements aimed at providing information to the public on risks associated with hazardous sites. In the European Union (EU), this legal obligation is captured in Article 14 and further interpreted by Annex V of the Seveso III Directive. This report describes this obligation in more detail and explains the purpose within the context of the Directive. It summarizes the different approaches of the EU member states how to comply with their respective responsibilities. It furthermore defines principles to be considered for the implementation tools used for giving the information to the public.

This publication is part of the ongoing series of Good Practice Reports to support inspection by authorities who have responsibility for monitoring and oversight of hazardous sites. The reports are developed from exchanges between inspectors from over 20 EU Member States in a series of webinars and workshops in 2022. These exchanges were hosted by the European Commission's Joint Research Centre in collaboration with the EU Technical Working Group on Seveso Inspections (TWG 2), as part of its Mutual Joint Visit (MJV) workshop programme. The TWG 2 consists of representative of EU competent authorities across the EU who work together to share and disseminate their collective knowledge and experience in conducting inspections to fulfil obligations of the EU Seveso Directive (2012/18/EU) for the control of major chemical hazards. The publication is intended to aid the dissemination of good enforcement and risk management practices for the control of major industrial hazards both in Europe and elsewhere.

1 Introduction

This report aims to provide guidance for EU Seveso and other hazardous site inspectors on the enforcement of requirements aimed at providing information to the public on risks associated with hazardous sites. In the European Union (EU), this legal obligation is captured in Article 14 and further interpreted by Annex V of the Seveso III Directive (2012/18/EU). This report describes this obligation in more detail and explains the purpose within the context of the Directive. It summarizes the different approaches of the EU member states how to comply with their respective responsibilities. It furthermore defines principles to be considered for the implementation tools used for giving the information to the public.

A significant challenge in monitoring and managing hazardous sites is communication of the risk to the public, especially people, businesses, and services that reside or have a significant presence in the surrounding communities. Indeed, the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, the so-called "Aarhus Convention", enshrines the right of every person to live in an environment adequate to his or her health and well-being, which includes persons exposed to the risk of a major chemical accident. In the European Union, the Seveso III Directive defines the obligations of government authorities for providing information to the public on risks posed by hazardous sites covered under the legislation.

To explore how Seveso authorities are implementing and inspecting these requirements, the EU Technical Working Group for Seveso Inspections (TWG 2) and the European Commission's Joint Research Centre (JRC) organized a Mutual Joint Visit (MJV) workshop for Seveso inspectors on the topic in 2022. The workshop took place across a series of two webinars followed by a final day hosted by the JRC in Ispra, Italy, for which most participants were present in person. This report summarizes information exchanged on implementation and practices that may be useful to inspectors and Seveso authorities generally in evaluating and

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2 Regulatory and theoretical context

This chapter summarises the regulatory requirements of Article 14 (Paragraphs 1 and 2) and the theoretical justification for including these provisions in the Seveso Directive. Paragraphs 3 and 4 are not addressed since they refer exclusively to transboundary information, an element within the broader topic of management of risks with potential transboundary effects.

2.1 Regulatory context

(The respective Directive text is attached in the annex.)

The Information to the Public obligations of the Seveso Directive are outlined in four distinct paragraphs within Article 14 and also summarised in **Figure 1**. The workshop focused on Paragraphs 1 and 2, excluding communication of transboundary risks to affected countries, since that is another important topic requiring its own discussion.

Article 14 (1)

- instructs authorities information in Annex V should be provided to the public
- indicates that that information should be made permanently available to the public, including electronically

Article 14 (2)

- imposes further information requirements on upper tier establishments
- defines who should be considered a member of the public in relation to upper tier requirements
- indicates that outreach should be directed at neighbouring establishments and buildings and areas used by the public
- requires that such information should be provided at least every 5 years

Figure 1 Information to the public obligations in Article 14 (1) and (2) and Annex V
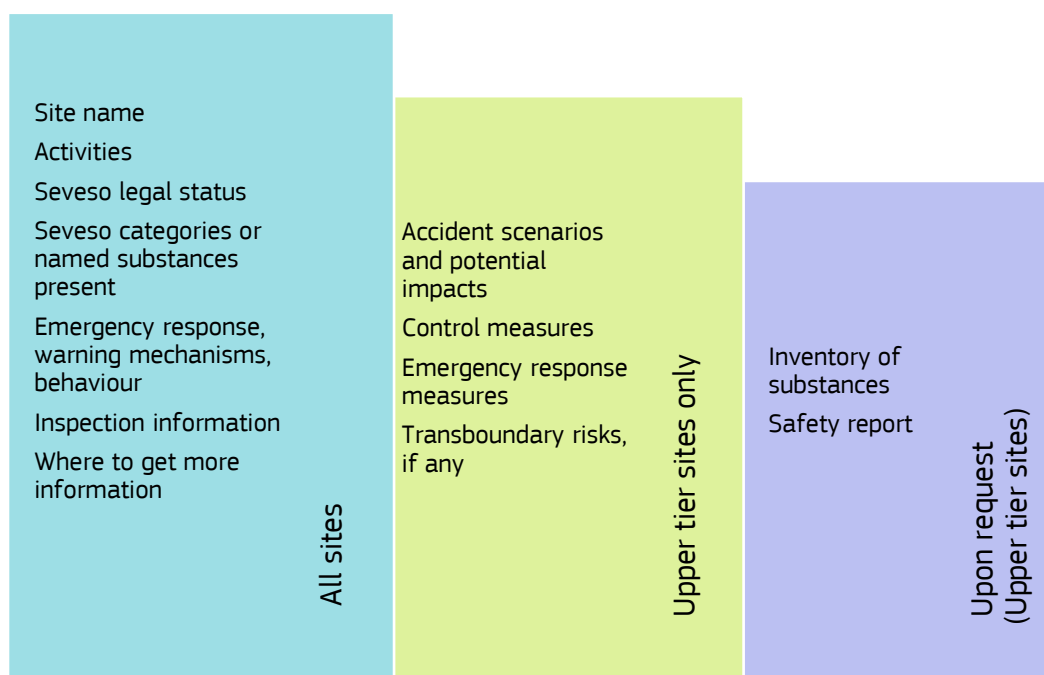
Information to the Public – Frequently Asked Questions

What information should be provided?

Article V requires all sites to furnish the name of the site, a description of activity performed there, substances present that are covered within the Seveso criteria, information relevant to the public in case of a chemical emergency, some details on inspections and fulfilment of legal requirements, and information on how to find out more. Upper-tier sites must furnish more detailed information on accident scenarios, their potential impacts, control measures, and coordination with external emergency authorities as well as stipulate whether there are transboundary risks.

Who implements these obligations?

Article 14 does not specify to whom these requirements are entrusted. In practice, it is up to the individual country to determine whether the operator or authorities or a combination of both is responsible for this obligation.

Are there any exceptions?

According to Article 22, authorities, and in a more limited sense, also the operator, can refuse to disclose information required under Article 14 for reasons provided for in Article 4 of Directive 2003/4/EC.

Who is the audience for this information?

The audience for the information required by Article 5 is defined only as "the public". However, Article 14 (2) additionally requires upper tier establishments to provide the information to "buildings and areas of public use" and neighbouring upper-tier Seveso establishments. Without written down in the legal text it can be assumed that some sort of "distance assessment" should take place, like the requirement for the "persons likely to be affected".

When should information be updated?

Article 14 indicates that Article V information shall be "updated, where necessary". However, according to paragraph 2, upper-tier establishments have to update Article V information at least every five years. There is no equivalent instruction for lower-tier sites.

Article 14 (1) does not specify how often the Annex V information must be updated. For Article 14(2) information, countries mostly adopted the Directive's criteria, that is, every 5 years or when a significant modification to the risk profile requires updating, although in at least one case the mandatory interval was reduced to 3 years.

How should information be made available?

Article 14 (1) requires that the information in Article V is "permanently available to the public" without defining the extent of the "public". The information can therefore only be provided as "passive" information, which means that persons belonging to the public have access to the information if they make use of the information source, e.g., websites or printed information that is publicly accessible.

Upper tier establishments (Article 2) have to define the persons "likely to be affected" who will be furnished the information "regularly" "without having to request it".

Annex V

Annex V part 1 of the Directive specifies the details of the information addressed in Article 14 paragraph 1 and point (a) of paragraph 2. While paragraph 1 of Article 14 is addressed to all establishments falling under Seveso III, paragraph 2 applies only to upper-tier establishments.

Therefore, the most relevant obligations for all establishments (lower and upper tier) are in brief:

- Provide an information with basic details concerning name and address of the operator and the establishment
- Explain in simple terms the characteristics of the establishment's activities
- Disclose the (relevant) dangerous substances by common names
- Give information on the forms of the external response provisions (alarm, necessary behaviour)

Annex V, Part II pertains exclusively to upper tier sites and requires them to

- Provide more detailed information about the hazards, including relevant accident scenarios, impacts and control measures
- Information on external emergency response arrangements and measures
- Whether any scenarios are a transboundary risk.

In addition, Article 14 stipulates that, upon request, members of the public may be allowed to see the safety report and the inventory of dangerous substances (provided that they are not considered confidential under Article 22).

Text Box 1 provides answers to frequently asked questions about how and when Article 14 provisions should be applied.

2.2 Theoretical context: The interface of Article 14 with risk communication

Implementation of the Seveso requirements for information to the public can be considered in the context of risk communication. As indicated in **Figure 2,** the Information to the Public obligation forms a part of an overall risk management strategy that includes risk management, risk communication, risk analysis. The specific objectives of a risk communication effort depend on the role of the target audience. Information to the Public as required by the Seveso III Directive is a particular case of risk communication. In the context of information to the public requirements of the Seveso Directive, the target audience is defined as people who live, work or frequent the surrounding community and that might be affected by a chemical incident occurring on the site.

The Seveso Directive aims in particular at recognising the right of access to environmental information and public participation in decision-making. In addition, it aims to inform communities on emergency response elements that concern the in particular. As such, the main objectives of information sharing under the Directive are:

- to provide access to information on the risks posed by a hazardous facility to those who desire it
- to facilitate awareness to support public participation in local decision-making as well as the decisions of individuals and organisations regarding their own activities
- to reassure the community that the risks are well-understood and properly managed by the operator
- to communicate actions that individuals and organisations should be prepared to take in case of emergency

Information to the Public as required by Article 14 of the Seveso III Directive is only a small part of the whole issue of risk communication but legally mandatory. Legal transposition of information to the public cannot contain the whole load of meaningful actions that should precede and accompany the delivery of risk information. For example, the company and authorities may also need to take preparatory action aimed at trust building to lay the groundwork for a measured reaction to risk information. It is well-documented that trust building is a difficult task, especially when complex technologies are involved. (See, for example, Slovic, 1982 and Kasperson et al., 1988.) It goes beyond the mandate of an authority, nor can it be required of the company, because it usually has no legal basis. What builds trust in any community is generally unique to that community and as such, it is of no fixed character that can be easily captured in a legal framework. The

Figure 2 Risk communication as part of a risk management strategy

Risk management strategy

Risk management

Risk analysis

Risk communication

discussion paper written for the workshop provides a detailed summary of findings from research on risk communication and trust building.,

Information to the Public requirements are most likely the closest that legislation can ever get to mandating trust building efforts. In sum, it is up to the acting authority, and particular local level authorities, to consider obligations in the wider context of risk communication and conduct supporting actions, as may be deemed necessary, through its interpretation of compliance measures and through routine negotiations about risk management on the site.

The MJV workshop on Information to the Public revealed the challenges confronted by inspectorates in using their inspection authority to achieve an improvement in public understanding of risk of hazardous sites in their communities. It also allowed different country representatives to compare their practices and relative successes and failures. In the end, the workshop confirmed that providing risk information to the public is important to trust building and to risk management, in general, but numerous obstacles can impede reaching that goal.

3   The Mutual Joint Visit (MJV) Workshop– description and findings

The MJV workshop usually is a 3-day in-presence workshop composed of numerous presentations from various contributors on the topic. The presentations are selected to provide a wide range of Member State perspectives on the topic. The agenda also includes 3 sessions in which participants are broken into small groups (so-called "break-out sessions") and discuss the experiences and practices in their country.

Due to the Covid-19 pandemic, the workshop consisted of two half-day webinars in June and September 2022 and two half-days in-presence at the site of the European Commission's Joint Research Centre in Ispra, Italy in October 2022. The workshop hosted 28 participants from 25 EU countries, including 3 different German Laender, and a guest participant from New Zealand, a country that also (voluntarily) implements the Seveso Directive since 2016.

3.1   Programme summary

The agenda with presentations are available at the following link, [MJV Workshop Seveso Article 14/Annex V – Information to the Public Requirements](link), on the JRC website. The programme consisted of the following:

3.1.1   First half-day virtual session (10 June 2022)

The first half-day webinar featured a presentation and discussion on the main elements of Article 14 that would be discussed (based on a paper prepared for the workshop) and presentations from participating EU and EEA countries.

The first webinar on 10 June 2022 focused on the experience and practices of each Member State in regard to the following::

- Overview of allocation of roles and responsibilities in each country (who is/are the competent authority/authorities?)
- Where does the input for the information to the public come from?
- Who distributes the information and how?
- How is the evaluation performed?
- How are specific issues dealt with?

3.1.2   Second half-day virtual session (13 September 2022)

The second half-day webinar featured the first break-out section on challenges for industry and authorities in fulfilling the obligations of Article 14. The second webinar first summarised highlights from the first webinar. The remainder of the webinar consisted of discussion on the following questions in 3 small groups ("break-out sessions"):

- Typically, what is the role of industry across the various countries represented in the group?

- What specific criteria or guidance do authorities give, if any, on issues such as communication, confidentiality, and publication and distribution of information?

- What quality control mechanisms and performance criteria have been established to ensure that practices are aligned with the Directive obligations?

- What are typical Interactions between government and industry in executing Article 14 obligations, including practical examples?

- What are the challenges and benefits in implementing each of the above Article 14 elements and what are some examples of innovative practices?

- What formal feedback mechanisms, if any, are used to help measure success of the industry communication efforts?

3.1.3 Final two half-days in presence (4-5 October 2022)

During the final two half-days, a number of countries presented their communication strategies, including websites for presenting the Article 14 information. This part of the webinar consisted mainly of two break-out sessions with a few presentations to set the scene. The break-outs facilitated exchange among countries on the following questions:

Break-out session 2

- What kinds of strategies and communication mechanisms are available? When do you use them and for what audiences and information?

- What makes a good process? Who to involved and when, authorities, site operators, the public, and how to get feedback on what works.

- How do you define the audience for information and how should that drive your strategy? Addressing target audiences, dealing with confidentiality, how to be proactive, how proactive should you be, how to get feedback.

Break-out session 3

How can we achieve improvement?

- Elements of an Information to the Public toolkit
- Structural Elements: What items should it address?
- Content: Provide a bullet list of recommendations for each item

3.2 Implementation practices in EU/EEA countries

There is a wide variation across the different EU countries in terms of how competent authorities implement the Information to the Public requirement. There is no "typical" situation. There is no "one-and-only" approach. Each administration seeks to adapt the requirements to existing legislation and strategies. Pragmatism and feasibility considerations play a large role in implementation decisions. Inspection strategies for Information to the Public, as with other requirements of the Seveso III Directive, have many national varieties. Most often, the country allocates responsibilities between federal, regional and local administration bodies, at various geographic levels. There are mostly more than one responsible authority involved (i.e., more than one ministry on the federal level or sharing of tasks between the local community and fire brigade, etc.). Many non-mandatory elements of risk communication, e.g., measuring the effectiveness, are in most national examples, not fully addressed, presumably because they are not required, and because there is no or limited availability of expertise and resources.

This section describes the five key decisions that shape the implementation approach in any one country.

The five elements are:

- the determination of who is involved in implementation

- centralisation vs. decentralisation of responsibilities

- the process that determines the content of Information to the Public

- mechanisms for delivering the information

- how the "persons likely to be affected" are determined for Article 14(2)(a)

Within each element, the government has an option as to which implementation path to take. The collective result is a mix-and-match of all these choices. The multiplicity of options for implementing each element is what drives the wide variation in implementation approaches within Seveso countries.

3.2.1 Allocation of responsibilities – options for deciding who is involved in implementing Article 14

There are three basic models for choosing who is involved in implementation of Article 14. The first two options, government take full responsibility or operator takes full responsibility, as described below, are the simplest approaches. The third option, mixed responsibility, is not really one option, but contains a wide variety of subcategories that vary widely depending on how many levels of government may be involved and whether the operator also is tasked with distribution or choosing the content. These three options are described briefly below:

Government takes full responsibility. The information is provided by the authorities only. All authorities involved act together and coordinate the tasks. There is a nation-wide digital risk map where the relevant details are available. The risk map has a public part and one which requires accreditation. Operators have no obligation at all, so no evaluation is necessary. Nevertheless, most operators usually inform the local public through their websites or flyers and open-day events.

Example A: Centralisation in one national ministry

There is a focal technical body supporting the responsible federal ministry and hosting a database which contains the relevant information supplied by the operators based on a notification system, thus having control that the information is done. Access to the database depends on the different authorizations, open for the public, operator or administration with different access permission. Public sections of the database include basic data (name, inventory), safety measures and accident scenarios.

Operator takes full responsibility authority. The operator is responsible for informing the public and defining the extent of possible accident scenarios. The operator describes how this is performed in safety reports. The evaluation of the implementation is carried out together with the licensing process, the assessment of safety reports or inspections by the competent authority. There is no country-wide website for the information purpose, only for the community of the site.

Example B: Operator takes full responsibility

The operator is responsible for informing the public and defining the extent of possible accidents by scenarios. The operator describes in the safety report how this is performed. The evaluation of the implementation of Article 14 at the site may be carried out by the authority together with the site permitting process, the assessment of safety reports, or via inspections. There is no country-wide website for the information purpose, only the website of the operator.

Mixed responsibility. The operator provides a standard set of information to a technical body supporting the responsible federal authority. The process is based on the notification process (Article 7-8, giving the authority a specific enforcement control to ensure that the information is supplied. Based on this information collected, the technical body hosts a database that contains the relevant information supplied by the operators. Access to the database depends on the different authorisations, open for the public, operator or administration with different access permission. Public sections of the database include basic data (name, inventory), safety measures and accident scenarios.

Example C: Responsibility is coordinated among many authorities

The information is provided by the authorities only. All authorities involved at national, regional and local level, act together and coordinate the tasks. There is a national digital risk map where the relevant details are available. The risk map has a public part and one which requires authorisation. Operators have no obligation at all, so no evaluation is necessary. Nevertheless, most operators usually inform the local public through their websites or flyers and open-day events.

3.2.2 Distribution of responsibilities and centralisation vs. decentralisation

The choice of who is involved in the implementation of Article 14 is inseparable from the question of the degree to which information is centralised or decentralised geographically. Centralisation vs. decentralisation matters because it helps to determine the degree that there is a uniform approach or not throughout the country. The following points are important for understanding the influence that centralisation vs. decentralisation may have on how the process works in any one country.

- In the mixed approach, some parts of the process may be centralised and others may be decentralised, when some tasks are allocated to the national government and other tasks are allocated to operators or regional authorities.

- Centralisation and decentralisation are mainly relevant for decisions about what is included in the content and for distribution of the information.

- Centralisation vs. decentralisation does not have a lot of influence on the outcomes in regards to the other elements (i.e., source of the content, determination of persons likely to be affected, or mechanisms of distribution).

Table 1 Responsible actors categorised according to their tendency to have centralised or decentralised operations

Responsible actor	Centralised	Somewhat decentralised	Very decentralised.
National government	X		
Regional government	X (when coordinated across all levels)	X (when solely responsible)	
Local government			X (When solely responsible
Operator			X

Table 1 shows the degree to which typical actors in the process have centralised vs. decentralised approached. Centralised approaches tend to have a certainty uniformity in terms of outcome. Somewhat decentralised approaches may have some unity around some parts because it is assumed that part of the process is influenced by the same organisation (e.g., when some parts are operated by regional branches of a ministry). Very decentralised approaches assumes that each actor in the process coordinates in a limited fashion with its counterparts in other parts of the country (e.g., such as local governments and site operators). In the latter case, the inspector can impose some uniformity on operator approaches through monitoring and oversight.

Table 2 "Who does what?" – Who is responsible for the distribution of the information per country

Information is published by:	Number of countries
Operator only	8
Operator plus national authority	1
Operator plus local authority	5
National authority only	4
National and regional authority	2
National and local authority	1
Regional authority only	2
Local authority only	2

Table 2 shows that, in practice, the approaches selected by the different EU/EEA countries vary widely, rather than converging on one or two preferred options. In more than half of the countries (14), the operator is directly responsible for providing the required information to the public. In 8 cases, the operator is the sole provider of the information. In the remaining 11 countries, an authority manages the communication, using information provided by the operator, e.g., using the safety report, the notification, a document based a template provided by the authority, or another source**.**

3.2.3 Determining content – options for determining the content of Information to the Public distributions

The authorities and/or operators must take into account several factors in determining what should be shared with the public in implementing Article 14.

- **Simplicity vs. detail.** There is a general strategic challenge in this aspect. Either more information is provided in order to support transparency or less detailed information is provided so as not to frighten the public too much.

- **Who prepares the information.** The authority often uses its own technical expert to decide the content, whether selecting the information directly from operator submissions, or creating

templates for the operator to input the required information. Participants did not specifically mention any role of non-technical or communications experts in the process. It can be assumed that authorities viewed evaluation and/or selection of the information provided by the operator in pragmatic terms. In some countries, where authorities established guidance or a template for the authority or operator to use in selecting information for the task.

- **Protocols and guidance.** If the authority is responsible for providing the information, then they will generally establish protocols in regard to level of detail, complexity of the information provided, and confidentiality. However, several participants indicated that they do not provide any guidance. When responsibility for creating content is decentralised, regardless of whether it is government or industry, there is no specific protocol for verifying that the information conforms to guidance.

- **Security vs. openness.** From the workshop, it seemed that in most cases, the decision on what information remains confidentiality is not made at inspector level. Typically, all countries have a separate safety report without confidential data for the public. There is national legislation on the issue of confidentiality and if the question arises in reference to Seveso information, it is either decided case-by-case, or based on specific guidelines by designated staff in the competent authorities.

Several countries presented examples of the kind of information used to prepare the content of the information to the public, including forms used for collecting the information as well as websites used to display it. The content tended to focus on few but important details, generally including technical details, such as substances and substance properties, safety measures, etc. In all countries, the main form of delivery, whether operator or authority, is a website. When run by authorities, the websites could be hosted by national, regional, or local websites, depending on the country. The supplementary information required in paragraph 2 of Article 14, might sometimes be added to the website, or alternatively be provided in written form of leaflets, brochures or similar.

The participants were aware of the practical challenges posed by certain approaches, for example:

- decentralised allocation of responsibilities across various administration bodies

- the conflict between confidentiality and security vs. openness and trust

- the practicality of providing information in areas open to the general public (shopping centres etc.) who may also be affected by an accident

Another problem concerns the style of the information which is generally prepared by technical experts. Whereas inspectors and industry people might understand information that is largely technical in nature, it is doubtful that the public will do so. Indeed, effectiveness of Article 14 provisions is seen as a key question but there is no legal obligation to check effectiveness. In any case, defining what is meant by "effectiveness" in a legal context is also a challenge.

3.2.4 Source of information and quality control

Where the government is responsible for providing the information, one main competent authority is assigned the task of providing the information, including collecting information, as necessary, from other competent authorities (e.g., from the inspectorate, if the responsible competent authority is not an inspectorate). Participants noted that not all authorities may be cooperative. For example, in at

least one country, civil protection authorities sometimes have security concerns about information requested and share only a limited amount of information.

Some countries have a template for the management of the Information to the Public. This template is used as the basis for sharing information. One example is shown in **Table 3** that describes the various obligations and differences of the public and non-public part of the information. This form is

Table 3 Example of a form use to collect information from operators for Article 14 (and Article 7)

For all establishments	For upper-tier establishments	Non-public part	Public part
GENERAL INFORMATION Establishment		Geographical location	●
GENERAL INFORMATION Operator		●	●
ACTIVITIES		●	●
DANGEROUS SUBSTANCES PRESENT OR LIKELY TO BE PRESENT		Maximum amounts	Common names or, in the case of dangerous substances covered by Part 1 of Annex 1, the generic names or the hazard classification
AUTHORIZATIONS Opinions/Decisions		Inspection report	Last date of inspection
STATUS OF THE ESTABLISHMENT		●	●
	INFORMATION IN THE EVENT OF A MAJOR ACCIDENT	●	●
	GENERAL INFORMATION ON MAJOR ACCIDENT HAZARDS/ SCENARIOS / MEASURES	●	●
	CONFIRMATION FOR INTERNAL EMERGENCY PLAN	●	●
	INDICATION OF TEIA CONVENTION	●	●

the same form used by operators to notify authorities of their Seveso status under Article 7. The information collected in this form is then used also to create the content for the Information to the Public dissemination. **Figure 3** shows the same country's process for processing this information.

3.2.5 Mechanisms for making Article V information available

The form and contents of the information as required by the Directive and national transposition seems to be no problem at all, meaning that "simplification" or "general terms" was not mentioned. It is assumed that this is seen and evaluated pragmatically. It is not clear what way of the information apart from the website and a front office leaflet shall be chosen: to individuals or more to organizations (i.e., responsible for shopping centres, hospitals, sports grounds etc.).

The examples presented were focused on few but important details with much technical background. In all examples, the main information source is a website. In most cases this was provided by the operator, other countries have national, regional, or local websites hosted by the respective authority. Supplementary information, mostly for the additional requirements of paragraph 2 of Article 14, is provided in written form of leaflets, brochures or similar.

However, in at least one case, for reasons of security, and citing Article 23 provisions, no information was made available electronically.

Some of the advantages and disadvantages of electronic vs. paper dissemination are described in the following section.

Electronic dissemination

Advantages:

- No limited outreach
- Easy to react to changes and revise the contents.

Disadvantages:

- It is difficult to find information in the web.
- Certain parts of the public concerned are not covered (e.g. visitors to sports grounds or customers of shopping centres)

Paper dissemination

Advantages

- Not much effort to produce
- Can reach individual targets

Disadvantages:

- Requires definition of outreach limits
- Necessary to ensure reception in case of direct information.

- Minimum format (e.g. leaflet at site entrance) not very effective

3.2.6 Determining the target community for Article 14(2)(a) (upper tier sites)

Article 14(2)(a) requires that information be distributed to all "the persons likely to be affected". The determination of such person is generally made by estimating the number of people who could be expected to be present in a potential impact zone, that is, within a certain distance from the site, based on analysis of potential accident consequences. (See **Figure 4**.)

Figure 3 Example of the process for collecting and disseminating Information to the Public in one country*(adapted from original for this publication)*
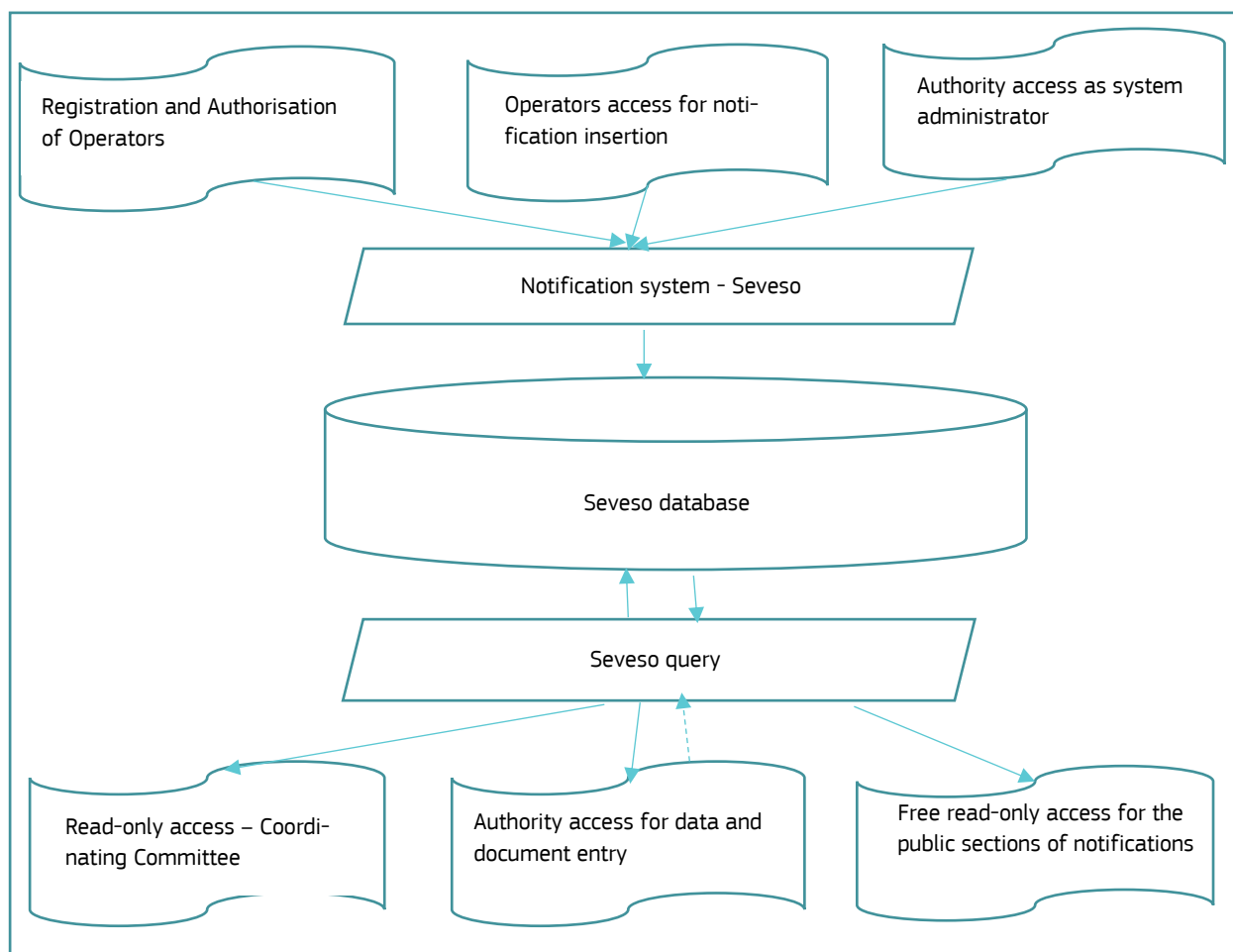
Table 4 Determination of the persons likely to be affected for Article 14(2a)

Source of input for assessing the "the persons likely to be affected"	Number of countries
Operator (impact zones derived from the safety report, a targeted risk assessment or other unspecified source)	9
Operator (impact zones derived from analysis of the accident scenario used for external emergency planning	6
Operator (impact zones derived from analysis of the accident scenario used for land-use planning)	1
Authority (different levels) with input from operator (safety report or defined worst case scenario)	6
Authority with own input	3

As indicated in **Table 4**, in 17 countries, the information was supplied by the operator, either based on information provided in the safety report or a dedicated risk assessment, or from analyses of accident scenarios specifically used for emergency or land-use planning. In the remaining nine cases, the authority made its own estimations based on either information supplied by the operator or generated by the authority themselves.

Figure 4 Example of an impact zone calculated from a chemical accident scenario for land-use planning
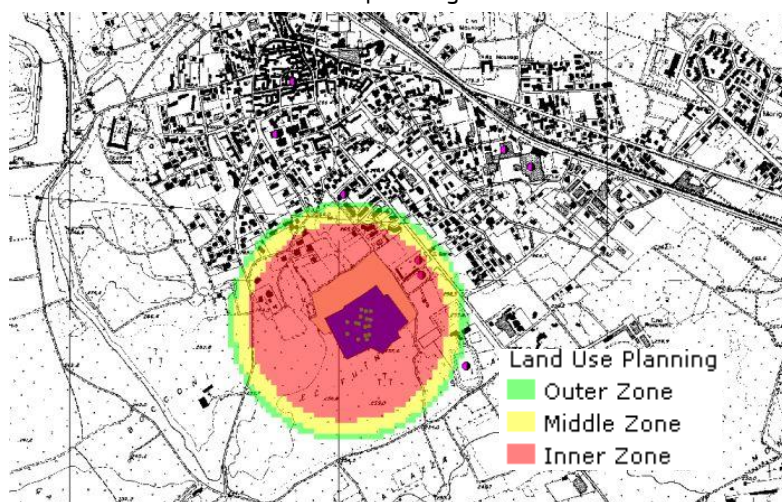
Source: *JRC Minerva website (land-use planning section)*

Each country tended to have its own rationale for justifying the source they used to select the accident scenario used to calculate impact zones. In particular, it is common for the authority to select what is identified as the "worst case scenario", regardless of the source. but it might be useful to specify whether the "worst case scenario" is an "absolute worst case" scenario (a catastrophic event with an extremely low likelihood) or the "most conceivable worst case" (a catastrophic scenario that has a low but plausible likelihood). The most common practice is to use the most conceivable worst case, as documented in the JRC's 2014 document, Good Practice Report on Emergency Planning for Chemical Accident Hazards.

The location of the affected public should also be a point of particular attention. It is not uncommon that the potential consequences of some accident scenarios affect more than one, and even several, jurisdictions. Therefore, the distribution of Article 14(2)(a) information may require collaboration across different communities to reach the affected public. The authorities that oversee hazardous sites may also be different across communities, for example, if the site is near a jurisdictional border or has far-reaching impacts (as could be the case with some explosion or toxic release scenarios).

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3.3 Fulfilling the expectations of Article 14

The aims of the Article 14 requirements are intended to provide access to information about risks at the hazardous facility, encourage open dialogue and informed decision-making about the risk within the surrounding community, and ensure that individuals and organisations take the correct actions to protect themselves in an emergency. The individual inspector plays a role in guiding this communication process on individual sites. However, it is the competent authority, or authorities, in general that are responsible to motivate effectiveness and stimulate improvement in the implementation of these requirements. This section provides some basic principles and good practice for carrying out these functions.

3.3.1 The role of inspections

According to Article 20, one of the roles of a Seveso inspection is to ensure that information has been supplied to the public pursuant to Article 14. In this regard, inspections with respect to Article 14 of the Seveso III Directive can target their inspection based on the following criteria:

- verifying the completeness of the information in accordance with the requirements of Article 14 and Annex V
- evaluating the effectiveness of the information, to the extent possible
- contributing advice and information in support of those who are responsible for providing the information.

For countries that use a national web platform for dissemination, the operator's compliance with the Article 14 requirements is confirmed with the uploading of the information and no further inspection is needed. When the operator has the main responsibility for Article 14 dissemination, inspectors can incorporate assessment of compliance to Article 14 in more than one oversight obligation, in particular, the site inspection process or the evaluation of the safety report.

On upper tier sites, the inspectors in most countries will have the additional responsibility of checking that Article 14(2)(a) has been fulfilled. The information consists specifically of information on safety measures and behaviour in the event of a major accident. This information is not in Article V and is not necessarily disseminated through the website (national or company-based) or outside the entrance of the site. As opposed to Article V information, the responsibility for delivering Article 14(2)(a) information was usually delegated to upper tier site operators..   For this purpose, the operator may use direct communication mechanisms, such as leaflets and brochures.   The countries did not describe any specific action to verify that Article 14(2)(a) information is "clear and intelligible"

3.3.2 Evaluating effectiveness

Nearly all countries at the workshop said that they do not verify actively if the information have read and understood information about the establishments. There is no requirement in the Directive to obtain public feedback. Moreover, the value of information provided to be the public tends to be subjective, that is, very dependent on the local context. Criteria tends to be tied to the needs of specific

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Suggestions for effective delivery of Information to the Public

The following suggestions can be used (as relevant) in developing implementation strategies within national, regional or local authorities, and by operators, or by inspectors that are inspecting the compliance with Article 14, inasmuch as these obligations come under the responsibility of the operator per the national implementation strategy.

- Comply with the minimum requirements of the Seveso Directive in terms of content, audience, and delivery
- Have a robust strategy for implementing Information to the Public with clear objectives and compliance criteria
- Avoid unnecessary burdens on the process, e.g., use existing channels and mechanisms, distribute responsibilities, etc., as possible for certain tasks
- Ensure that implementation occurs as indicated in the strategy, using both formal and informal mechanisms
- Reach everybody within the extent of a major accident without difference of age, presence, language, or vulnerability.
- Tell the people why the information is important but tell them only what they need to know
- Try to achieve short intervals for the written form of information, ideally shorter than the intervals required by the Seveso Directive
- Create opportunities to remind local communities of information available on hazardous operators and what to do in emergencies
- Use scheduled local interactions to obtain community feedback about the hazardous site and the information
- Routinely include discussion of community feedback in meetings with local authorities and/or operators
- Check carefully that information provided cannot be used for deliberately harmful activities or that could threaten security of the community, region country.

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communities. The Information to the Public in Article V is mostly intended for a citizen or a community that would like to have more information on hazardous sites in their vicinity. In many cases, individuals in the vicinity of a hazardous site may not be interested at all unless there is some particular stimuli, such as a bad odour or a general desire to prevent more industrial development near their home. Community administrators may also use the information only occasionally. Often, only a real incident stimulates a public reaction. A well-known paradox in risk communication is that most of the public are not interested in knowing much about their risks until there is an actual emergency. (Slovic, 1982; Johnson et al., 2020)

In any case, obtaining feedback that is relevant and useful generally needs to be performed at the local level, where the information has some practical value. Having the Article V information available at local level can be very relevant for certain non-emergency situations. For example, when a community is making decisions about new development or about expansion of a current hazardous site. Understanding the industrial risk already present can help justify decisions about future community investment. The information may also be important for homebuyers or business investors in the area. In addition, if a hazardous site has had other negative impacts in the community, such as local air or water pollution or a persistent smell, the community may be interested in knowing more about the potential chemical hazards associated with the site. Hence, although there is generally no systematic collection of feedback, use of the information by individuals or the community

may generate spontaneous feedback to the operator or the authority. From these encounters, the national authorities may receive informal feedback through routine meetings and exchanges. It is notable also that the local level provider is sometimes only the operator, and not government in many cases, and they may or may not share feedback from the community with the authorities.

On the other hand, it should be essential that the public are aware of the Article 14(2)(a) safety measures and behaviour in emergencies. The obligation to provide this information is generally delegated to the operator and local communities. At local level, there are actions outside of an emergency that can check that information was received and understood. Local fire fighters and public health authorities can also give visibility at various events as opportunities arise. Sometimes the information can become more visible to citizens in the community when the media reports on emergency exercises.

3.3.3 Opportunities for improvement

Feedback channels, research and case studies on risk communication, and exchanges such as in this particular workshop, can provide good ideas for improving implementation of Article 14. During workshop discussions, participants often observed ideas for improvement that they would take back home. The most concrete elements from the exchanges are described below:

Explore the level of awareness in the community before publishing the information and adjust the strategy accordingly. This advice generally goes towards the local authority or operator. There may need to be work done to make the information relevant to the community since initially the community may not even be interested.

Incorporate clear descriptions of certain elements within the company safety report for use in Information to the Public. This recommendation suggests that the company safety report should already propose information in non-technical language. This suggestion could be particularly effective for sites owned by a larger company. Large companies and corporations often have communications professionals on staff that can be tapped for converting technical language into plain prose.

Add supporting measures to the written distributed information (especially Article 14(2)(a)), such as including a link to social media, getting air time to explain measures on local TV or radio, and publicizing a site "open house". The local authorities or operators can reinforce their written distributions through social media, but also by scheduling events that remind the local community of emergency measures in place. They can also use assemblies of local government, local social events, and other mechanisms as opportunities to give attention to the information.

Work with persons of trust, such as medical doctors or teachers, to help explain and deliver messages about site risks. These professionals often have good experience in delivering technical information in a non-technical way. Involvement of these community resources in routine information about site risks can also give useful feedback for outreach mechanisms.

Give Article 14(2) information for lower-tier sites to surrounding communities. The designation of some sites as "lower" tier and "upper" tier is somewhat irrelevant in the context of risk acceptance and emergency response. In reality, the responsibility of communicating risk and emergency information extends to any site that is considered hazardous enough to potentially expose the public to harm. Article 14 information not only includes emergency response measures, but also a summary of potential accident scenarios on hazardous substances on site. By failing to communicate the same information on lower tier sites as upper tier sites, the authorities (and operators) risk that a lack of transparency will undermine trust in the community. Moreover, if a

serious accident occurs, the affected individuals may be confused about what to do and not follow safe behaviour.

4 Conclusions

From the workshop presentations and exchanges, it can be concluded that EU/EEA countries are fulfilling the practical implementation of the legal requirements of Article 14 of the Seveso III Directive. Respective national guidance papers or statements by the participants show that implementation across the Member States is executed in various ways, and in particular, how responsibilities are distributed can vary quite a lot. In general, there is no one-and-only structure that emerges from the workshop as the most typical strategy for implementing Article 14 provisions. However, the participants also confirmed that most countries have similar perspectives on content and delivery of risk and emergency information and assessing compliance, even if they use different means for achieving these objectives.

The national examples, in particular, reflect the established ways in which their administrative systems already work. Building on existing processes, and on traditional allocation of responsibilities, makes the process more efficient than it might otherwise be if invented new from scratch. This adaptive approach also tends to lead to a sharing of responsibilities among authorities since the Seveso Directive is multidisciplinary by nature and requires a local as well as a national presence. There are various formats and approaches which are the product of national practices and legal constructs and none of these examples may be seen better than another, since they are embedded into national legal conditions and practices, e. g. for inspections, and even in cultural and social expectations surrounding risk management and communication.

The Seveso Directive also incorporates a clear philosophy that the operator ultimately has primary responsibility for site safety. Hence, it is very much in the operator's interest to take part in defending the site's risk management strategy and in ensuring the public knows what to do in case of emergency. The local authorities and communities also are motivated to promote communication that will help with risk acceptance and promote safe behaviour in an emergency. Their work can always be improved and in this regard, periodic review of strategies and practices may be helpful, as well as greater availability of resources and competences relevant to risk communication.

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Annex 1 Seveso III Directive – Relevant parts for this report

Article 14

1. Member States shall ensure that the information referred to in Annex V is permanently available to the public, including electronically. The information shall be kept updated, where necessary, including in the event of modifications covered by Article 11

2. For upper-tier establishments, Member States shall also ensure that:

(a) all persons likely to be affected by a major accident receive regularly and in the most appropriate form, without having to request it, clear and intelligible information on safety measures and requisite behaviour in the event of a major accident;

(b) the safety report is made available to the public upon request subject to Article 22(3); where Article 22(3) applies, an amended report, for instance in the form of a non-technical summary, which shall include at least general information on major-accident hazards and on potential effects on human health and the environment in the event of a major accident, shall be made available;

(c) the inventory of dangerous substances is made available to the public upon request subject to Article 22 (3)

The information to be supplied under point (a) of the first subparagraph of this paragraph shall include at least the information referred to in Annex V. That information shall likewise be supplied to all buildings and areas of public use, including schools and hospitals, and to all neighbouring establishments in the case of establishments covered by Article 9. Member States shall ensure that the information is supplied at least every five years and periodically reviewed and where necessary, updated, including in the event of modifications covered by Article 11

Annex V

Part I

1. Name or trade name of the operator and the full address of the establishment concerned.

2. Confirmation that the establishment is subject to the regulations and/or administrative provisions implementing this Directive and that the notification referred to in Article 7(1) or the safety report referred to in Article 10(1) has been submitted to the competent authority.

3. An explanation in simple terms of the activity or activities undertaken at the establishment.

4. The common names or, in the case of dangerous substances covered by Part 1 of Annex I, the generic names or the hazard classification of the relevant dangerous substances involved at the establishment which could give rise to a major accident, with an indication of their principal dangerous characteristics in simple terms.

5. General information about how the public concerned will be warned, if necessary; adequate information about the appropriate behaviour in the event of a major accident or indication of where that information can be accessed electronically.

6. The date of the last site visit in accordance with Article 20(4), or reference to where that information can be accessed electronically; information on where more detailed information

about the inspection and the related inspection plan can be obtained upon request, subject to the requirements of Article 22.

7. Details of where further relevant information can be obtained, subject to the requirements of Article 22

Part II

For upper-tier establishments, in addition to the information referred to in Part 1 of this Annex:

1. General information relating to the nature of the major-accident hazards, including their potential effects on human health and the environment and summary details of the main types of major-accident scenarios and the control measures to address them.

2. Confirmation that the operator is required to make adequate arrangements on site, in particular liaison with the emergency services, to deal with major accidents and to minimise their effects.

3. Appropriate information from the external emergency plan drawn up to cope with any off-site effects from an accident. This should include advice to cooperate with any instructions or requests from the emergency services at the time of an accident.

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