

Infringements to the national provisions: a case study from a lower tier inspection

Mutual Joint Visit Workshop for Seveso Inspections on Risk management and enforcement on lower tier sites

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Portuguese Competent Authorities and European Commission's Joint Research Centre

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The role of ISPRA for industrial control

ISPRA has a national role as a **technical body supporting the Ministry of Environment** in the national implementation of the **Seveso Directives** for the prevention of major accidents

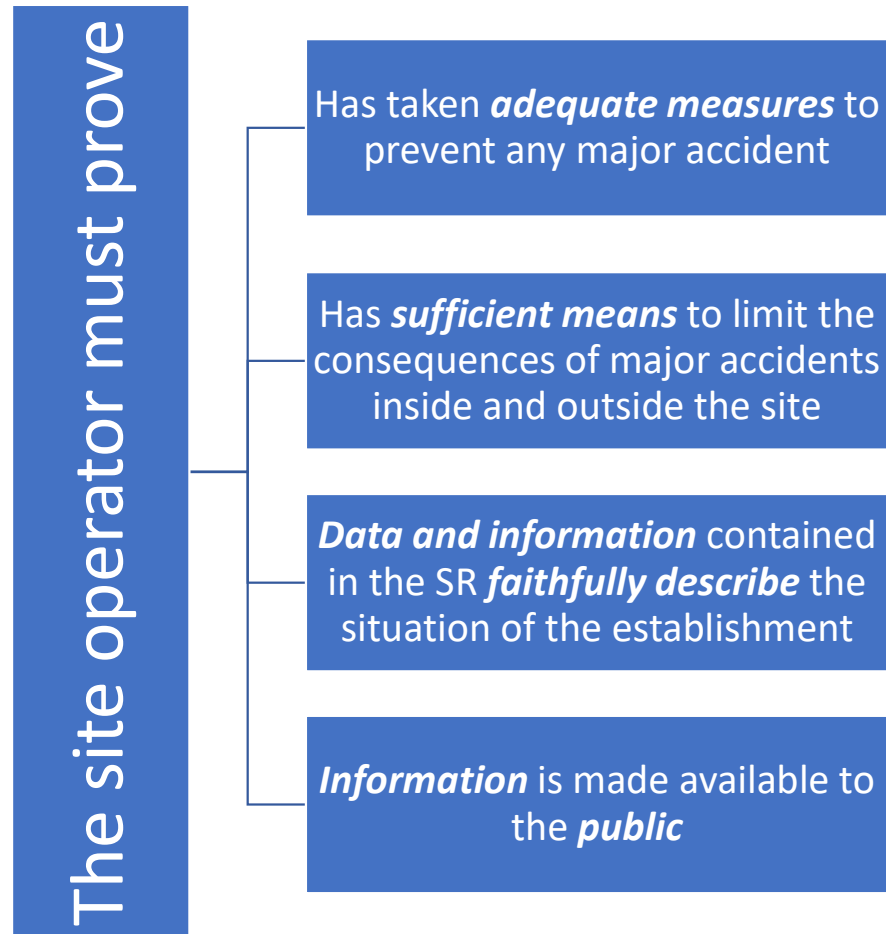
- Definition of **technical contents of laws and decrees** to control Major Accidents
- Set of the **National Inventory of major accident hazards establishments** and other related databases
- **Inspections of establishments SMS-PMA (Safety Management System-Prevention of Major Accident)** on a regular basis or after an accident
- Support for **international activities** (EU, OECD, bilateral cooperation)
- Technical coordination and **addressing of Regional Agencies** for the Protection of Environment (ARPA)
- **Collaboration with other Authorities competent** for industrial risk (Ministry of Home Affairs – National Fire Brigades; Department of Civil Protection; Ministry of Infrastructures)

Program and themes

1. SMS Inspections on LT establishments
2. Inspection activity: the initial findings of the commission
3. In-depth analyzes conducted during the inspection
4. Conclusions and further developments

1. SMS Inspections on LT establishments

The site operator tasks



The Inspection Commission

A **commission** is charged by **Regional Italian Authority** (Environmental Department):

- **ISPRA** (*Institute for Environmental Protection and Research*)
- **CNVVF** (*Local Fire Brigades*)
- **INAIL** (*Safety at Work Institute*)

The commission must verify the **suitability** of the **operator MAPP** and the **implementation** of the **SMS**, carrying out a planned **examination** of the **systems** being employed at the establishment, whether of a **technical, organizational or managerial** nature



The national regulation

2 fundamental legislative instruments relevant to the SMS inspections

1) D. Lgs. 105/2015 – Allegato B “Linee guida per l'attuazione del Sistema di Gestione della Sicurezza per la prevenzione degli incidenti rilevanti”

- **MAPP and SMS structure:** technical contents, deepness, training activities
- **State of the art:** UNI 10617 (UNI10616), ISO 45000-ISO14000-EMAS (MAP)

2) D. Lgs. 105/2015 – Allegato H “Criteri per la pianificazione, la programmazione e lo svolgimento delle ispezioni”

- **Criteria and procedures for conducting inspections:** procedures and formats (check-list, operational experience, critical systems) for SMS-MAPP inspections
- **Simplification of some items:** for establishments with high standardization (depots, storage sites, transferring, etc.)

The verification elements

- **Operational experience**: recording of **events** that occurred at the **establishment** and similar establishments over the **last 10 years**
- **Checklist**: verification of **SMS elements**
 1. *Major Accident Prevention Policy and SMS structure*
 2. *Organisation and staff*
 3. *Identification and assessment of major hazards*
 4. *Operational control*
 5. *Management of change*
 6. *Emergency planning*
 7. *Performance check*
 8. *Control and review*
- **Events - measures**: events analyzed in **risk analyses**, highlighting **prevention and protection systems**

SMS inspections vs COVID-19

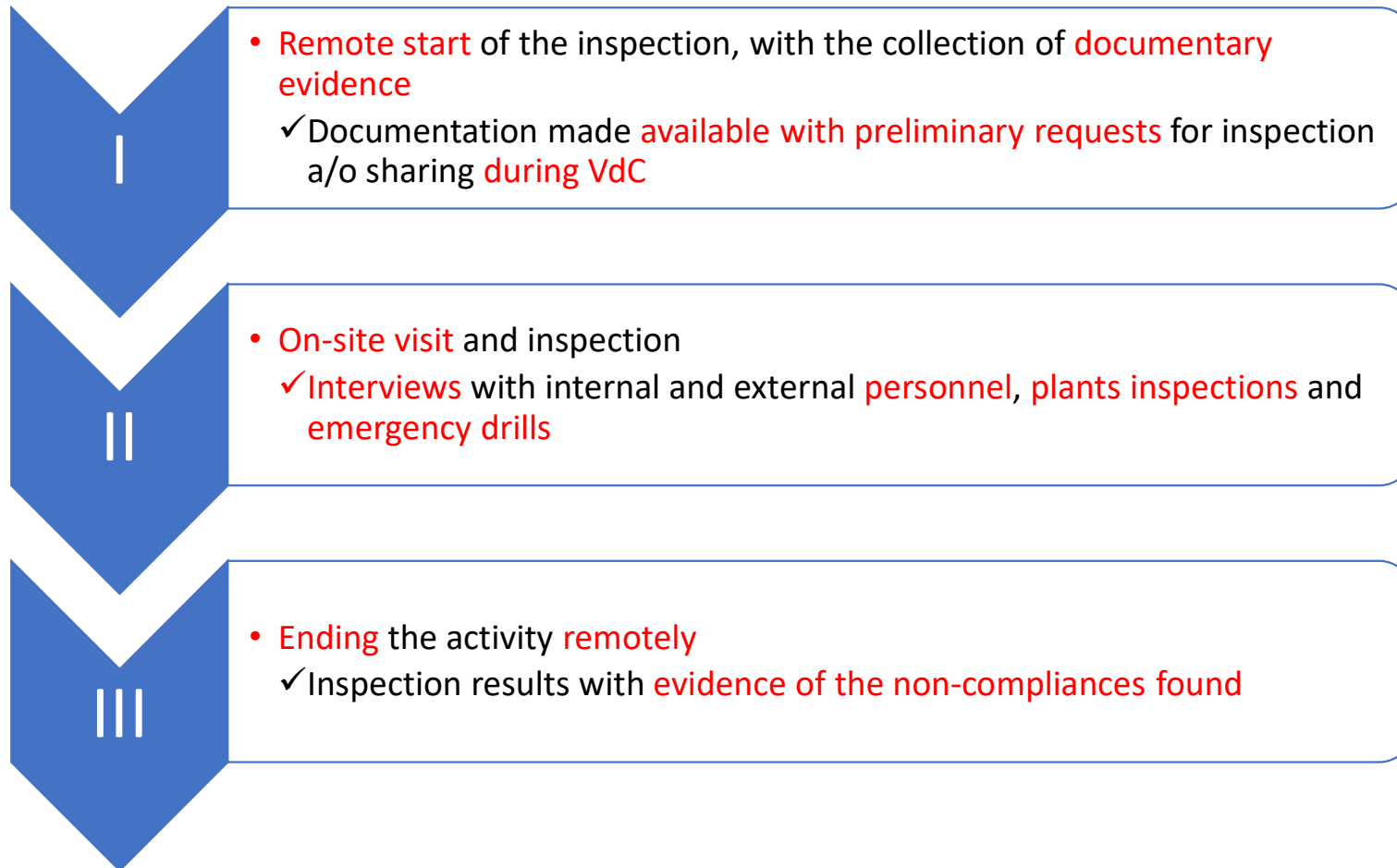
Health emergency from SARS - CoV - 2 has resulted in **limitations** in carrying out **on-site inspections** on the national territory

ISPRA, National Fire Brigade (CNVVF), Safety at Work Institute (INAIL) and Ministry of Environment (MASE), **in compliance with D.Lgs. 105/2015**, have introduced **alternative methods for carrying out inspections**

- Possibility of performing **some phases remotely**
- Identified **what can be done through documentary examination** and what **must be done on site**, with possible completion of documentary analysis



The new inspection procedure



2. Inspection activity: the initial findings of the commission

Description of the establishment

Depot for the storage and handling of **LPG and diesel**

- Receipt of **LPG** via tankers
- **LPG storage** in insulated horizontal cylindrical tanks above ground
- **Shipping** of bulk LPG for **combustion** use
- **Bottling** of LPG in cylinders and shipping
- **Reception of diesel** for automotive, heating and agricultural use
- **Storage** of diesel in vertical **tanks** in a containment basin and **shipping**
- **Retail distribution** of agricultural diesel via dispenser

The inventory of hazardous substances

- The maximum **quantity of LPG is 198.84 t** in the notification form
- **Failure** to indicate in the **notification form** the maximum **quantities** present in the plants **of diesel: 254 m³ (216 t)**
 - Due to the application of the **sum rule** (Note 4 Annex I), **diesel is added to LPG** (flammable subst.), obtaining a **value greater than 1** for physical hazards
 - The consideration of diesel **changes the status of the establishment from the LT to the UT**, with consequent additional obligations
- The commission **informed** the **inspection authority** (the Region) and the **Judicial Authority** for the **infringement** to the national provision
 - **Arrest** of up to three months or **fine** from 10,000 to 60,000 euros
 - However, the **operator** made a first **modification** regarding the quantities of **LPG present** (*reduction from 30,000 kg to 20,000 kg of LPG in cylinders*)

The MAPP Documents

- The **previously** valid version of the **MAPP Document** dated to **3 years earlier**, as indicated in the document header and in the Notification
- **Failure** to comply with the obligation to **update** the **MAPP Document** every **two years**
- The commission **informed** the **inspection authority** (the Region) and the **Judicial Authority** for the **infringement** to the national provision
 - **Arrest** of up to three months or **fine** of 25,000 euros
 - However, the one represented is a **previous situation** (*at the time of the inspection a valid MAPP document was present*)

3. In-depth analyzes conducted during the inspection

The Synthesis of Non-Compliances

Summary of the findings emerging from the examination of the checklist of elements of the SMS	Finding	Minor NC	Major NC
1. MAPP, structure of the SMS and its integration with company management			
i Definition of the Prevention Policy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ii Verification of the structure of the SMS-PMA adopted and integration with company management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii Contents of the MAPP Document	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Organization and staff			
i Definition of responsibilities, resources and activity planning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ii Information activities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
iii Training activities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
iv Human factors, operator and plant interfaces	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Identification and assessment of major hazards			
i Identification of the dangers of substances, definition of safety criteria and requirements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii Identification of possible accident events and safety analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii Planning of plant and management adjustments to reduce risks and update	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4. Operational control			
i Identification of systems and equipment subject to verification plans	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ii Documentation management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii Operating procedures and instructions in normal, anomalous and emergency conditions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv Maintenance procedures	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v Procurement of goods and services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Summary of the findings emerging from the examination of the checklist of elements of the SMS	Finding	Minor NC	Major NC
5. Management of changes			
i Technical-system, procedural and organizational changes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii Documentation update	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Emergency planning			
i Consequence analysis, planning and documentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii Roles and responsibilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii Controls and checks for the management of emergency situations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv Alarm and communication systems and support for external intervention	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v Investigations on systems connected to emergency management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi Control room and/or emergency management center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Performance check			
i Performance evaluation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii Analysis of accidents and near-misses	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8. Control and review			
i Inspections and Audits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii Review of the SMS-PMA prevention policy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Minor non-compliance: an evidence of formal aspects not adequately fulfilled (for example, the requirement for a standard adopted voluntarily not completely satisfied, due to lack of adequate supporting documentation, an element of the SMS adopted by the operator but without adequate documentation to support it, etc.).

Major non-compliance: an evidence of substantial not-compliance with legal requirements, technical standards taken as reference for the SMS or corporate standards. A minor non-compliance not corrected (for example, identified during the last inspection and not taken into consideration by the operator), may also become a major non-compliance during the subsequent inspection.

Examples of major non compliances: the MAPP and the SMS

- Review of the **MAPP Document**, on a specific management **meeting**, to be carried out **in presence of the various subjects** involved (workers' representatives, higher management)
- Systematization of all **site documentation to demonstrate** that the **SMS-PMA adopted is integrated** with the management of the **Company**
- Evaluation of the **implementation plan**, based on the actual **site reality**, during specific **system review meetings**

Examples of major non compliances: Organization and Staff

- The **Head of the Prevention and Protection Service** is appointed **internally** within the company, regardless of the type of contract
- Evidence of the **dissemination of the information documentation** on the MA Risks to all **workers** (employees, third parties, visitors)
- Review of **training procedures**:
 - Times and **frequency** of the activities, **topics**, type of **workers**
 - **Contents** carried out during the sessions, following which **learning verification** tests must be scheduled
 - Specific **“on-site” sessions** on procedures, operational instructions
 - **Contractors** have carried out the **training** activity with learning **verification**

Examples of major non compliances: MAH and MOC

- The **risk analysis** must include:
 - Acquisition and updating of **operational experience data**
 - Indication of **techniques, criteria and responsibilities**
 - Consideration of the **human factor**
 - **Implementation plan**, to be contextualized on the actual **site reality**
- **MOC procedure**, with updating and archiving of documentation:
 - **Risk assessment** and internal **emergency plan**
 - **Diagrams**, drawings and plans
 - Procedures, instructions and **operating manuals**
 - **Training** activities
 - **Commissioning** activities, through specific PTW

Examples of major non compliances: Operational control

- Identification of **critical technical systems**, based on the measures adopted to **prevent and/or mitigate** the hypothesized scenarios, planning and carrying out operational control activities
 - Insert and/or complete the **correct TAG** with what is actually “on-site”; align all procedural **references** used during the checks by the external companies
 - Prepare an adaptation plan to **equip all areas** with appropriate **gas detectors**
 - Review the **operating logic and consequent blocking** of the tank level-states
 - Activities of: testing line **safety valves**; **shut-down verification** on panels, sirens, pumps, valves, detectors, ESD; **calibration and testing** of gas detectors; daily, weekly and monthly **checks on arms, pumps, tanks, lines**

Examples of major non compliances: Emergency planning

- **Review of the IEP** implementing:
 - Results of the **risk assessments** conducted
 - Definition of **emergency management actions** for each scenario
 - Completeness of the recordings in the **fire maintenance register**
 - Planning and carrying out **training sessions** on emergency management, equipping the **intervention team** with all the **PPE**
 - Provision of **sprinkler systems** in the plant areas, activated by flammable **gas detectors**

Examples of major non compliances: Performance, control and review

- Analysis of **operational experience** on accidents, describing the **management factors** and critical **technical systems**, exchanging information with **other establishments**, **disseminating** the information
- **Periodic safety audits** for the evaluation of the SMS-PMA, with a specific **implementation plan** for all corrective **actions** emerged
- Criteria for **updating the SMS and the MAPP** through a specific **meeting**, considering the performance **indicators**, the results of **inspections**, the review of the **manager's commitments**

4. Conclusions and further developments

Findings and judgment of the Commission

- ❑ The **SMS** was compliant, only in its **minimum and basic** elements, with the **provisions** of the legislation and the **MAPP Document**
- ❑ The SMS was therefore in the **implementation phase**, although the **Site Operator had already implemented** a series of actions following the **findings** highlighted by the **Commission**
- ❑ However, **a very significant number of non-compliances** were detected for the elements of the SMS, many of which **if not corrected** would have **undermined** the effectiveness of the **SMS over time**

The further actions for adopting corrective measures

- ❖ The Commission assessed the **possible timescales** within which to **adopt corrective measures**, by the Competent Inspection Authority
 - ✓ Granting **1 month for major non-compliances and 2 months for minor non-compliances**
- ❖ Considering the **significant non-compliances** that emerged, the Commission also deemed it **necessary to propose to the Authority** to carry out an **additional inspection within 6 months**
 - ✓ To verify the **implementation in the SMS** of the measures and **corrective actions** put in place by the site Operator **following the previous inspection**

Final considerations

- ❑ Some small self-owned companies **have a poor safety culture, ignoring or misunderstanding at all** the major accidents hazards
 - During the inspection, the site operator **had to set up a management system** by completely relying on the **work of a consultancy company**
- ❑ The **lack/impoverishment** of technical **competence** makes internal organization **impervious** to external **knowledge**
 - The industrial **associations** should supply the **weakness** of single enterprise, with a capillary action to **disseminate knowledge** through their network
- ❑ The establishment has **never been subjected to SMS inspection**
 - A **control activity** carried out constantly by the **competent authorities** constitutes a positive incentive to **continuous improvement**, keeping the **manager's attention high** on the approach and **commitment to safety**

If you think safety is expensive, try an accident



Questions...???

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https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/mjv_portugal_2023

Thanks for the attention!

