Overview of Italian Seveso inspection strategy and experiences

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Meeting-MJV

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1-Basis of the regulatory standard

- Legislative Decree No. 105 of 26 June 2015 Implementation of Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.

1-Basis of the regulatory standard

- **Art. 27 - Inspections**

  - **Obligations for Authorities:**
    - To establish a national inspection plan for Upper-tier (by the Ministry of the Interior, through the National fire corps in collaboration with ISPRA, the national inspectorate)
    - Regional inspection plans for lower-tier establishments (by regions)
    - To coordinate and harmonize the plans of competence and to proceed accordingly to the full definition of the annual programs
    - Frequency for SMS inspections established on the basis of a systematic assessment of major-accident hazards of the establishments concerned

1-Basis of the regulatory standard

- The Regions draw up regional inspection plans covering all the Lower-tier establishments within their respective territories. The Ministry of the Interior and the Regions, in collaboration with ISPRA, ensure the coordination and harmonization of inspection plans of their respective competence

- The Ministry of the Interior and the regions periodically review and, where appropriate, update the inspection plans of their own competence by exchanging the information necessary to ensure their coordination and harmonization

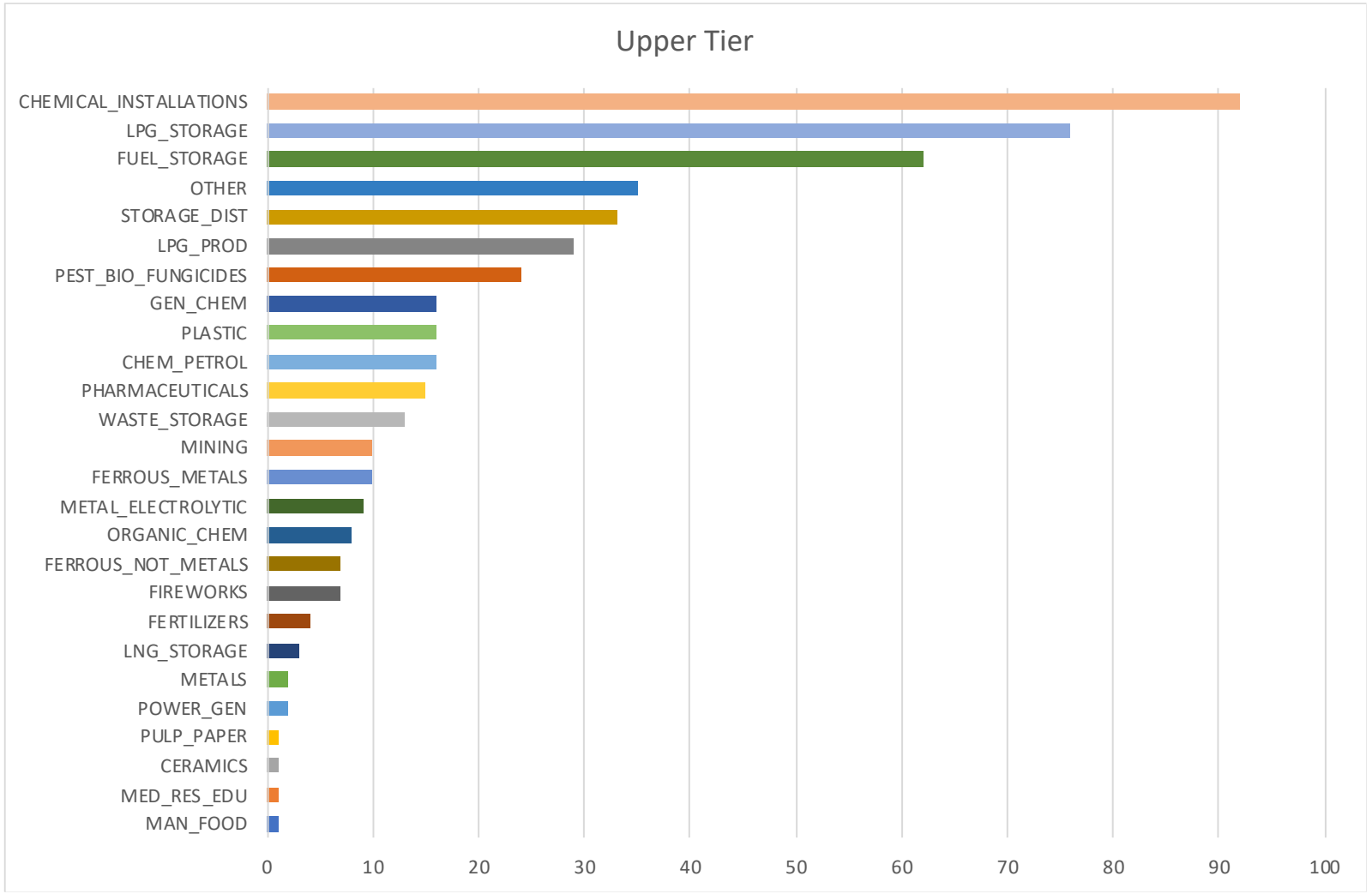
1-Basis of the regulatory standard

- **Routine inspections** are planned by the co by the competent authorities, with the fees (tariffs) to be payed by the operators.
- **Non-routine inspections** are arranged out by the competent authorities regarding the major accidents, on their own initiative or at the request of the Ministry of the Environment, in order to investigate in the event of serious complaints, accidents and near accidents, as well as failure to comply with the obligations laid down in the decree

If a serious non conformity has been identified during an inspection, an additional inspection is carried out within six months

It is possible to organize complete (full) or sample (after the first) inspections focused on some specific aspects of the SMS

2-The Inventory of the Seveso establishment



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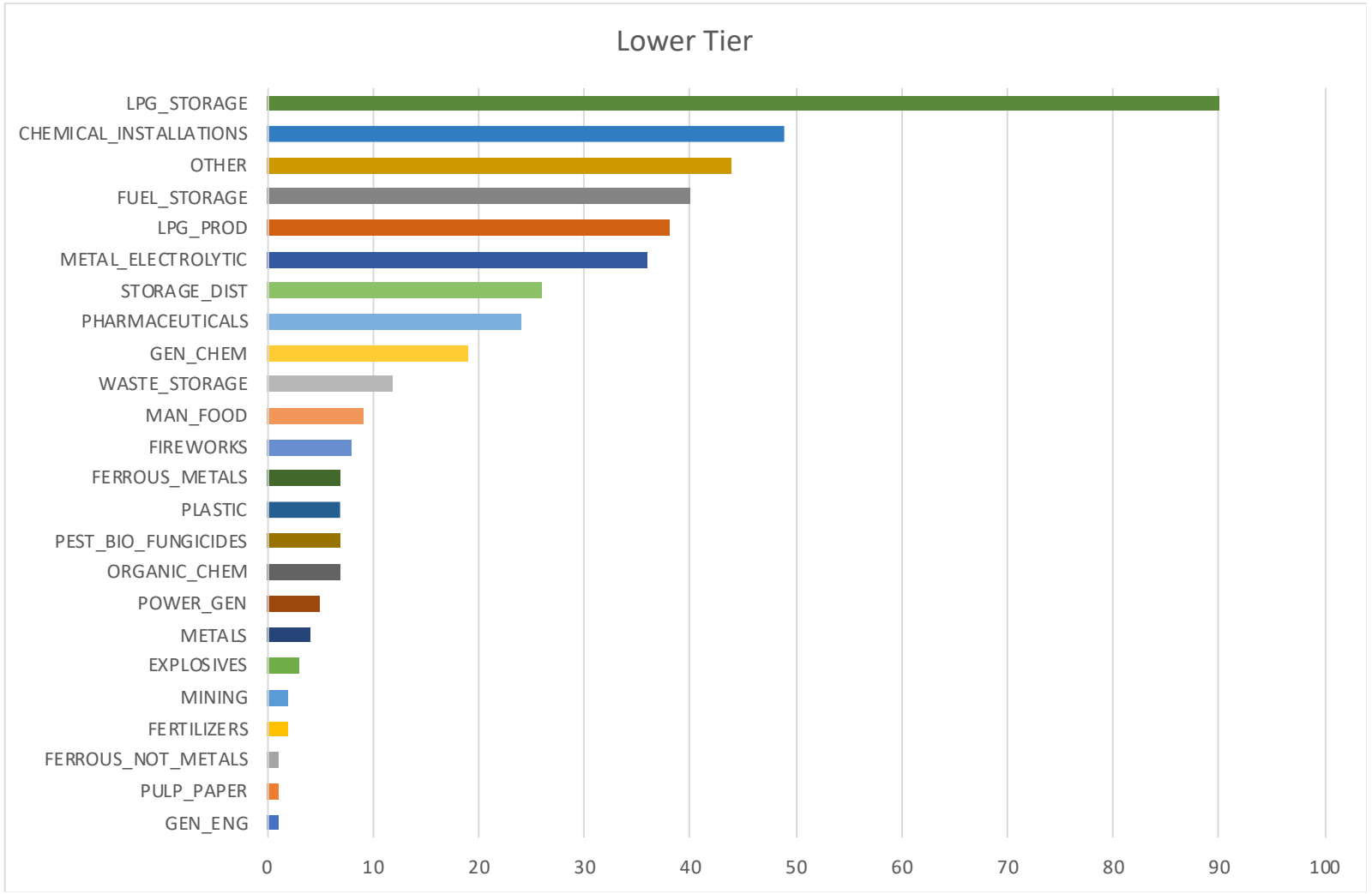


3-Upper Tier vs Lower Tier

UT

- NOTIFICATION
- MAPP
- SAFETY REPORT
- SMS
- IEP

LT

- NOTIFICATION
- MAPP
- RISK EVALUATION (within the OHS)
- SMS
- Procedures on emergency response

AUT

- EVALUATION SR
- EVALUATION RE (In a few cases)
- SMS INSPECTIONS
- EEP
- LUP

4-The checklist for inspections

- Designed to support inspectors in control activities was developed a specific checklist that leads to various aspects of the Safety Management System, as defined in the decree implementing the Directive and that it consists of 8 elements, 27 points and 95 sub points.

Objective

Consistent

- The operational guidelines for carrying out inspections, the format to use and relating tools for planning and programming the control activities are now part of Italian regulation

5-The 8 pillars of the SMS

- MAPP
- Organization and personnel
- Evaluation and identification of major hazards
- Operational control and maintenance
- Management of change
- Emergency planning and response
- Monitoring performances and accident investigation
- Audit and system review

6-Lower Tier inspections: opportunities of possible improvement

- **Organization and personnel (roles, training, awareness, communication)**

- Missing a clear allocation of responsibilities
- Training plans usually generic and static and do not take into account the suggestions of workers, through their representatives.
- Not specific to the different operational tasks.
- The communication is generally limited to the up-down direction and therefore can happen, especially interviewing operators, that they are poorly informed about the nature of the processes and risks involved.

6-Lower Tier inspections: opportunities of possible improvement

- **Evaluation and identification of hazards (risk management process, improvement of knowledge and risk reduction);**

- The risk assessment is not always supported by an adequate procedure that takes into account the results of operational experience and possible suggestions that may come from operational units.
- The «Document on risk assessment» only in some regions is subject to evaluation by the authority, so it happens that the methodologies do not give reliable results.
- Risk reduction activities have been planned without considering all the possible input elements.

6-Lower Tier inspections: opportunities of possible improvement

- **Operational control (operating procedures, maintenance, permit to work)**

- The correct identification of the critical equipment, based on the results of the risk assessment is not yet an established starting point for all the organizations.
- For this reason, it was not effectively defined the periodicity for proper maintenance of the equipment in order to avoid unexpected failures.
- Some cases of misuse of the permit to work, which limited its effectiveness.

6-Lower Tier inspections: opportunities of possible improvement

- **Mechanical Integrity**

- Necessary for the operator to analyze the problems of ageing (corrosion, erosion, fatigue and creep) of equipment and installations that can lead to losses of dangerous substances, including, where relevant, a specific monitoring plan And control, including corrective and preventive measures

- No evidence of a plan for monitoring and controlling the risks associated with the ageing of equipment unless it is in accordance with the law obligations

6-Lower Tier inspections: opportunities of possible improvement

- **Internal Emergency Plan/emergency procedures, organization, drills**

- Behaviors of the operators not corresponding to what is set in the procedures, i.e. in terms of use of specific PPE required by emergency situations
- In the recording of the outcomings of the drill, and in the analysis and developing of appropriate corrective actions.

6-Lower Tier inspections: opportunities of possible improvement

- **Accidents, near misses, non-compliance, corrective and preventive actions**

- Inadequate procedures and not appropriate response of the personnel (from the top management to the operating personnel) that, not properly trained and aware, is not able to effectively recognize and report abnormal events in order to prepare adequate improvement plans.
- The collection of accidents limited only to the establishment, without taking into account the information coming from similar processes.

7-Proposed actions for a further improvement of SMS

- **Competence, training and awareness of personnel**

- The sharing of the operational experience (accidents, studies or tests and anything else made about changes to plants and/or conduction) provides important elements for improving operating conditions and safety.
- The essential purpose of training activities shall be to ensure that all personnel involved in the design, operation and maintenance of a plant has the required knowledge of the implications of their activities on safety
- Such information is constantly updated and staff maintain suitable professional qualification and operational capabilities.

7-Proposed actions for a further improvement of SMS

- **The prevention of human error in plant operation**

- The prevention of human error should be considered a fundamental aspect of safety management process.
- For this reason, it is necessary that the performance of employees (managers, personnell, contractors) is highly reliable.
- The capability by the operators to manage the anomalies during the operation and/or emergency situations should be verified both in real conditions of occurrence and in simulations and drills to determine any deficiencies related to the human factor.

7-Proposed actions for a further improvement of SMS

- **Process risk management and identification of possible improvements**

- The process risk management shall ensure the systematic identification, assessment and control of risks, in terms of frequency and consequences, which can occur during operation throughout the plant lifecycle, including dismantling (decommissioning).
- Without a complete understanding of risks, and the options available to mitigate them, the organization is not able to make effective decisions.
- Organizations that do not actively make an effort in qualitative and quantitative analysis of "what can go wrong?", or that do not implement the recommendations arising from the risk assessments carried out, are not able to effectively manage the risks and establish appropriate improvement plans.

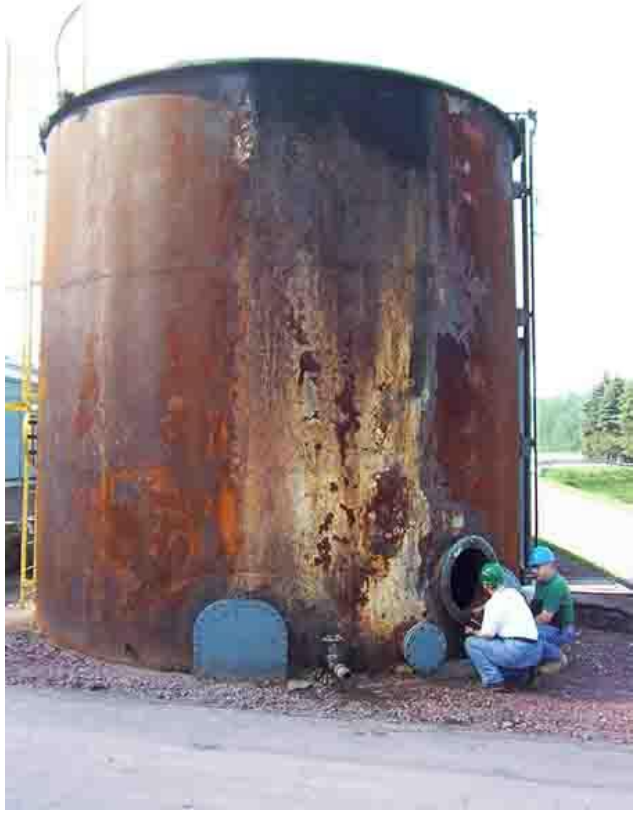
7-Proposed actions for a further improvement of SMS

Mechanical integrity

Operational control must be implemented with specific procedures and/or instructions (management of process faults and containment losses)

The identification of critical equipment and lines must be contained in the risk analysis and form the basis of a specific inspection/control plan

Maintenance of critical equipment or lines can be performed according to the available RBM (Risk Based Maintenance) criteria or Best Practices



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Grazie