EU industrial safety rules in action

The EU protects the environment, human health and our economy by reducing the risk from industrial disasters. That’s what the Directive on the control of major-accident hazards involving dangerous substances (known as the Seveso-III Directive) has ensured since 1982. Seveso-III Directive aims at preventing such incidents and minimising their risks. All EU countries are obliged to adopt measures at national and company level to prevent major accidents and to ensure preparedness and response should such accidents nevertheless happen. Industrial plants in the European Union are covered by the provisions of the Directive if dangerous substances are or could be present in the ‘establishment’ in quantities exceeding the thresholds mentioned in the Directive.

- More than 12,000 establishments in the EU are covered by the requirements of the Directive, mainly in the (petro)chemical industry, as well as in fuel wholesale and storage (incl. LPG and LNG) sectors.
- A tailored approach distinguishes upper tier and lower tier establishments based on the quantities of dangerous substances being used and handled.
- Upper tier establishments are subject to more stringent requirements.
- The Directive has driven key improvements in the assessments and management.
- This translates into a more systematic identification and addressing of critical issues for preventing industrial accidents.

“I am an industrial safety expert at a chemical company, that is part of an integrated energy company. We manufacture plastics, rubbers, and intermediates. Our aggregated standard worked hours were about 16 million in the 2005-2018 period, with 60% permanent staff and 40% contractors. For all our 14 EU-sites, we drew up major accident prevention policies, put in place a safety management system, drafted safety reports and emergency plans. Seveso inspections allow us to identify potential failures and avoid future accidents. Exchanging best practice examples with other companies and participating in national expert groups are also very valuable for us. Being proactive allowed us to better protect the health and wellbeing of our staff, and also paid off both financially and environmentally. In that period, incidents resulting in employees not being able to work were reduced by 94%. Over the last two years (2018-2020), they reduced further by an additional 75%. Incidents causing material and environmental damage also went down over the last 6 years. The economic value of the damage decreased and is maintained at or below 0.4% of total revenue. In addition, to keep economic damage of accidents at low levels, we implemented a system in 2017, in which our sites report primary containment losses without impacts on the environment. Together with an improved reporting of cases of plant shutdowns and near misses this allows us to continuously improve our performance.”
Safety level increased: Seveso avoids damage to health and environment

The costs per incident reported decreased by 80.14% (from 613.141€ in 2014 to 121.796€ in 2018)

Impacts on workers reduced by 97% from 137 in 2005 to 4 in 2019

2005

Seveso Benefits and improvements for industry:

**Prevention**: ✓ Reduced risks of accidents through Major Accident Prevention Plans & Safety Management Systems
✓ Increased awareness of domino-effects lowering accident impacts on neighbouring installations
✓ Reviewed safety measures through updated safety reports and regular inspections

**Preparedness**: ✓ Increased accident preparedness through tested emergency plans
✓ Improved neighbourhood relationships through public participation and increased transparancy

**Lessons learning**: ✓ Lessons learnt from ‘near misses’ and potential failures thus avoiding future accidents
✓ Reduced business interruption and lower property damage costs

The chemical sector is for industrial safety as it accounts for 17% of all establishments covered by the Seveso Directive. Compliance with Seveso helped the sector to considerably improve plant & process safety.

**Industry type covered by this case study**

Seveso Directive, Commission implementing decision 2014/895/EU.
Industry type: 8 - Petrochemical/Oil Refineries
The example is based on an actual case study completed by the industrial emissions and safety unit of the Directorate-General for Environment. The narrator is fictitious.

More information

The European Commission’s actions on major accident hazards:
https://ec.europa.eu/environment/seveso/
Seveso Directive
JRC Major Accident Hazards Bureau (MAHB) – Lessons learned bulletins:
https://minerva.jrc.ec.europa.eu/EN/content/minerva/f50d9006-41d0-46d1-bf43-e033d2f5a9cd/publications#LESSONS%20LEARNED

©European Union, 2020

Reuse is authorised provided the source is acknowledged.

For any use or reproduction of photos or other materials that is not under EU copyright, permission must be sought directly from the copyright holders.