

Romania - Ministry of Environment, Water and  
Forests  
National Environmental Guard  
Cluj County Commissariat

## **Major elements of the SEVESO Directive: external emergency plan**

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## **Content**

- Example of a recent tragic non Seveso accident in Romania
- External emergency plan (EEP) – legislative requirements, scope and objectives
- External emergency plan – chapter pattern in Romania
- Aspects from an approved Romanian EEP- at a chlorine bottling installation

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## “Colectiv” nightclub tragedy – Bucharest/ROMANIA - October 30 - 2015

- The “Colectiv” nightclub fire was a deadly fire in Bucharest, Romania, on 30 October 2015, which killed 49 people (data from Nov 10 th) and injured 162
- The fire, the worst such incident in Romania in the last 20 years, occurred during a free concert performed by a rock music band
- The band's pyrotechnics, consisting of sparkler firework candles, ignited the club's flammable polyurethane acoustic foam, and the fire spread rapidly
- Most of the victims were poisoned by toxins released from the burning foam
- Overtaken by high number of victims, Romanian authorities transferred some of the seriously injured to hospitals in Israel, Netherlands, Belgium and Austria.

Source: [https://en.wikipedia.org/wiki/Colectiv\\_nightclub\\_fire](https://en.wikipedia.org/wiki/Colectiv_nightclub_fire)





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## External emergency plans

- Performed by designated authority (based on information supplied by the operator)
- Reviewed/tested, revised/updated (min.every 3y)
- The review shall take into account changes occurring in the establishments concerned or within the emergency services concerned, new technical knowledge, and knowledge concerning the response to major accidents.
- Member States shall take into account the need to facilitate enhanced cooperation in civil protection assistance in major emergencies.

## Seveso III Art 12 Emergency plans

Member States shall ensure that, for all upper-tier establishments:

- (a) the operator draws up an internal emergency plan for the measures to be taken inside the establishment;
- (b) the operator supplies the necessary information to the competent authority, to enable the latter to draw up external emergency plans;
- (c) the authorities designated for that purpose by the Member State draw up an external emergency plan for the measures to be taken outside the establishment within two years following receipt of the necessary information from the operator pursuant to point (b).

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### ANNEX IV

## Data and information to be included in the EEP External emergency plans

- (a) Names or positions of persons authorized to set emergency procedures in motion and of persons authorized to take charge of and coordinate off-site action;
- (b) Arrangements for receiving early warning of incidents, and alert and call-out procedures;
- (c) Arrangements for coordinating resources necessary to implement the external emergency plan;
- (d) Arrangements for providing assistance with on-site mitigatory action;
- (e) Arrangements for off-site mitigatory action, including responses to major-accident scenarios as set out in the safety report and considering possible domino effects, including those having an impact on the environment;
- (f) Arrangements for providing the public with specific information relating to the accident and the behavior which should be adopted;
- (g) Arrangements for the provision of information to the emergency services of other Member States in the event of a major accident with possible transboundary consequences

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## Structure Framework External Emergency Plan

- **GENERAL PRESENTATION**

- General section
- Updates
- Exercises
- Staff training
- Description of the location and neighborhoods
- Framing / territorial delimitation
- information on the site and the hazardous substances used
- Information about territorial and environmental elements at risk

**Accident scenarios**

- Types of events
- demarcation of risk areas
- protection levels - benchmarks for evaluating the effects
- accident scenario description with reference to vulnerable elements within each area

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## EEP - structure

- **ORGANIZATIONAL MODEL OF INTERVENTION**

- Support Functions
- Organization and procedures
- Emergency Dispatch
- Ways to access the means of intervention, evacuation routes, trails prohibited and alternative routes
- assisted evacuation
- Alarm and communication flow
- The layout of systems / alarm means
- Managing and maintaining alarm systems
- Define alert levels
- Communication
- Manage the post-emergency

**Reserved section for informing people**

- preventive information campaign
- Reproduction of public information document
- informative messages to prevent panic and emergency

messages

**The department of cartography**

- text contains maps for different territorial and organizational elements

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## Main types of accident scenarios (major hazards)

- Fire (eg. Fire Ball, Jet Fire, Pool Fire, Flash Fire, BLEVE) – impact on people, plant and environment
- Explosion – pact same as fire, but more severe
- Toxic dispersion – impact on people and environment

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**Jet fire**



**Pool fire**



**Flash fire**



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BLEVE (Boiling Liquid  
Expanding Vapour  
Explosion)



Vapor cloud  
explosion



Photos taken from article of  
Universiti Teknologi Malaysia  
Dr. Arshad Ahmad

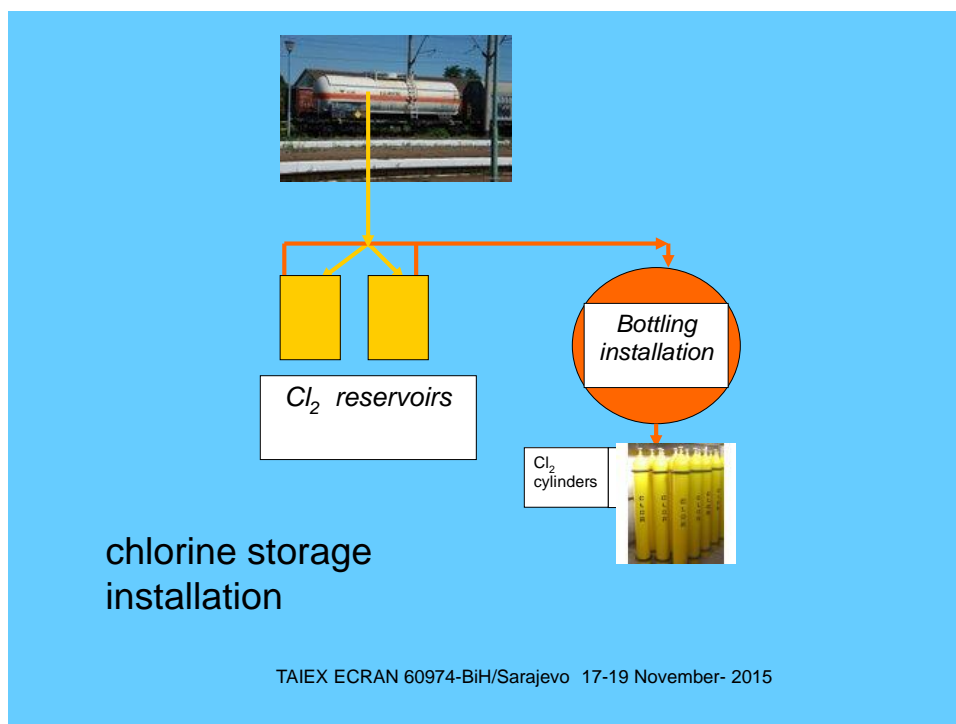
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## Aspects from a practical EEP- Seveso chlorine storage located in Cluj county

- Chlorine coming on railroad tanks
- Transport and deposited into 2 reservoirs (50 cubic meters maximum capacity each, with alternative use- pipe-18 m long)
- Transported (through pipes using dry comprimated air) to Chlorine bottling installation- where 50 kg, 500 kg si 900 kg recipients are loaded (maximum pressure – 10 bars, pipe -35 m)

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## EEP- performed by Inspectorate for Emergency Situations- Cluj

Clasification acording risk source location			
No.	Location of risk source	Total number of risk scenarios (all involving chlorine releases)	Number of scenarios that exceed the site
1	Chlorine deposit	6	5
2	Railroad chlorine tanks location	4	3
3	Pipelines	3	—
4	Chlorine bottling	4	2
	<b>TOTAL</b>	<b>17</b>	<b>10</b>

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## Action planned according three areas of interest

- Area I – high number of fatalities
- Area II – irreversible health effects (especially on vulnerable ages – children and old persons)
- Area III – maximum area of intervention

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## Interest zones for intervention planning-examples

Event description	Toxic substance involved	Scenario	Zone I circle's radius [m]	Zone I circle's radius [m]	Zone III circle's radius [m]
instantaneous release of <b>50</b> tones of Chlorine - total destruction of the deposit No intervention is possible in the core of the installation	Chlorine	toxic dispersion	1820	9570	18300
instantaneous release of <b>30</b> tones of Chlorine - total destruction of the deposit No intervention is possible in the core of the installation	Chlorine	toxic dispersion	1464	7733	14695
instantaneous release of <b>10</b> tones of Chlorine - total destruction of the deposit No intervention is possible in the core of the installation	Chlorine	toxic dispersion	905	4885	9227
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## Three levels of emergency situations

- Level 1- pre-emergency situation (near by events or very small chlorine releases having no effects outside the site)
- Level 2- Chlorine release outside the site, but not the maximum scenario
- Level 3 – worst possible event take place

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## Communication with mass media and public

- Two levels:
  - In the absence of an emergency situation
    - Performed by city-hall representatives
    - Data regarding advertising systems and intervention teams actions
    - Citizens behavior
    - Communication channels used by authorities
  - During an emergency situation
    - Performed by the prefect – manager of emergency and Inspectorate for Emergency Situations
    - Data regarding risk and actions/activities to be undertaken by citizens

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## EEP -Testing exercises

- Exercises for testing the coordination among institutions involved in intervention (not involving the employees, operational means and population)
- Mixt exercises (involving the employees, and operational means but not the population)
- Real scale exercises (involving the employees, operational means and population)

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## Practical information for population- depending on individual location during the event

- Using of chlorine protective masks or improvised devices (e.q wet textiles at nose and mouth)
- Closing and sealing of doors and windows with wet sheets
- Exit from chlorine cloud, by moving perpendicular on wind direction

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## References

- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC
- Specific support for implementation of Seveso Directive – Ro 2007/IB/En 02-TL
- Twinning Project guides: RO/2002/IB/EN-02 /Implementation of the VOC's, LCP and Seveso II Directives
- Wikipedia
- ECENA network materials
- Romanian OMAI-no-647/2005- approving the Methodological Norms on emergency plans in case of accidents involving hazardous substances
- Inspectorate for Emergency Situations “Avram Iancu” Cluj - External Emergency Plan

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Thank you for your attention



Questions?

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