A Seveso II. Irányelv végrehajtása az Egyesült Királyságban
Implementation of the Seveso II. Directive in the United Kingdom

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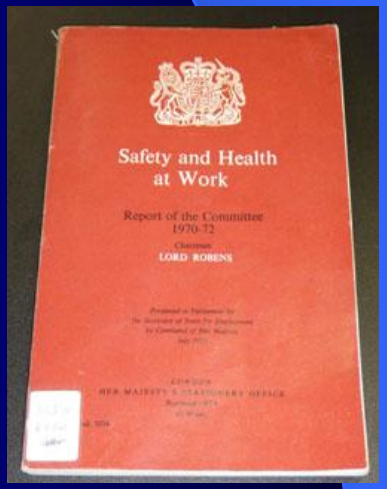
VESZÉLYES ÜZEMEK BIZTONSÁGA

Pre-history

- Robens Report, leading to
- Legislation
  - Health and Safety at Work Act 1974
  - Health and Safety Executive (HSE)
- Flixborough explosion 1974
  - Advisory Committee on Major Hazards



Pre-history

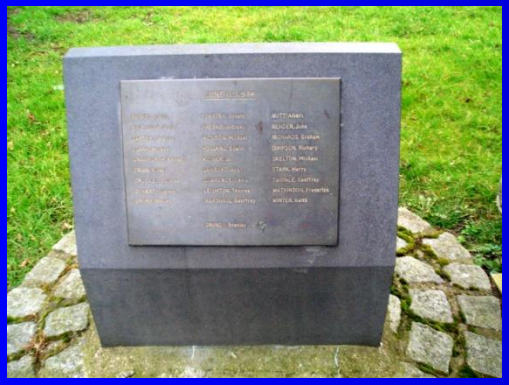
- Safety Case approach already mature
- Risk tolerability concept developed
- Goal setting regime familiar
- Risk assessment techniques pioneered
- Earliest hazard symposia

Seveso I (82/501/EEC)

- Very substantial UK input
- UK implementation CIMAH* Regs 1984
- From CIMAH to COMAH** should have been relatively easy

* CIMAH = Control of Industrial Major Accident Hazards

** COMAH = Control of Major Accident Hazards = Seveso II in UK



Memorial stone in Flixborough churchyard commemorating the 28 men killed in the expolosion at the Nypro works on 1st June 1974.

Seveso II (COMAH)

Failure rate of Safety Reports…

40%

Seveso II surprise

- Seveso I was largely descriptive
  - mainly WHAT
  - + a certain amount of HOW
- Seveso II stresses **demonstration**
  - WHAT
  - HOW
  - and ***WHY***

EARLY DAYS DEFICIENCIES

- a failure to demonstrate that a systematic approach had been used to evaluate major accident hazards;
- a failure to demonstrate a linkage between the major accident hazards and the measures for prevention and control;
- the risk assessment process was often not sufficiently robust or proportionate to the risks; and
- a failure to demonstrate that the results from the assessment had been used as the basis for selecting, prioritising and scheduling further risk reduction measures to reduce the risks to the ALARP level.

Proportionality

- The level of demonstration needs to be proportionate to the risks.

Risk assessment

Clear objectives: the „4 whats”

1. The risk *of what* (death, dangerous dose, business failing, etc.)
2. The risk *from what* (explosion, toxic release, friving, etc.)
3. The risk to what (employees, members ot the public), to the environment, to the business)
4. The risk so what (the decision at the end of process,

CA* comments

- Risk assessment not systematic
- WHAT without WHY: missing links
- Information incomplete or too general
- Human Factors neglected
- Occasional basic misconceptions,
  eg “in ALARP zone” = “ALARP”

*CA = Competent Authority = HSE + EA

UK Joint Competent Authority organisation

Government Minister
Department of Work and Pensions

Health & Safety Commission

Department for Environment, Food and Rural Affairs.

HSE Board of Directors

EA Board of Directors

Joint Coordination Group
HSE Deputy Chief Executive
Environment Agency – Director of Operations
SEPA - Director of Environmental Protection

Joint Steering Group
HSE Unit Head Chemical Industries Division
Environment Agency – Policy Manager
SEPA – Unit Manager

Operational Review Group
HSE, EA and SEPA officers group providing links to field teams

Operator verdicts

- Large, veteran top-tier sites: *on the whole, probably a worthwhile exercise, but…*
- Smaller sites or sites newly classified as top-tier: *disproportionate drain on resources, to the detriment of other safety programmes*

323 Top Tier sites, 645 Lower Tier sites (England and Wales)

Operator complaints

- Unreasonable requests for information
- Some ambiguities in published guidance
- Carelessness in inspectors' comments
- Disputed consequence modelling
- Obscure risk criteria
  - Societal Risk
  - Environmental risk
- Charging
- Publicity

Example: new LNG terminal

- Good working relationship with CA
- Rolling submission
- HSE present at critical HAZID…
- …but then had one final query…

……after another…

……and another…

Each generating substantial effort and delay

Example: new LNG terminal

- HSE concern: catastrophic failure of full containment LNG tank
- HAZID team looked hard for mechanisms
- Fault-tree analysis revealed only two:
  - Multiple, virtually independent, gross human error, or
  - Cataclysmic external impact
- Predicted annual frequency 10^{-8}

Example: new LNG terminal

- Decision seemed inevitable:
  - Strategic national requirement
  - Exceptional safety record of the industry
  - Remote from population

  - If not here, where?

COMAH remodelling

- To ensure that the regulation of major hazards was optimised the CA decided to rewiew and revise their approach the „Remodelling COMAH programme” (2 year project)
- One of the objectives: CA should be a learning organisation in terms to operate a major hazards regulatory regime

OUTPUTS of CRM

- Focus on inspection
- Intelligence (Incident data, Inspection data, Inspectors experience
- Risk and performance ranking

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