



PARTICIPANT ABSTRACTS



JRC Chemical Accident Risks Seminar
Ispra, Italy
14-16 June 2017



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Participant
Abstract

Session 1

We cannot improve what we cannot measure. How do we know if we are reducing chemical accident risks? Do we have the right tools to measure this?



KARMEN POLJANSEK

Title:

European Commission Disaster Risk Management Knowledge Centre (DRMKC)

Abstract

JRC leads an EU process with Member States to develop concrete, efficient and practical solutions for measuring disaster losses through the development of guidelines, software (DRMKC Loss Database and Risk Data Hub), and support to Member States (DRMKC Support Service).

Coherence and completeness of the national disaster damage and loss data recording process is necessary for supporting evidence based disaster risk management actions and building national capacity as well as fulfil requirements of policies at EU and global level.

With a series of regular workshop with EU expert working group and representatives of MS, JRC facilitates also the progress and planned activities for the implementation of the Sendai Indicators defined by the Open-ended Intergovernmental Expert Working Group (OIEWG) on Indicators and Terminology for Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR).

With SFDRR the scope of disaster risk reduction has been broadened significantly to focus on both natural and human-induced hazards and related environmental, technological and biological hazards and risks. Disaster loss data are not only one of the requirements of SFDRR but are also an important issue in other global initiatives, that is in the debates in UNFCCC on climate change, and are used in 3 sustainable development goals.

Keywords: disaster loss data, DRMKC, disaster risk management



ROHAN PERERA

Title:

Process Safety Management: The Role of the OPCW

Abstract

The OPCW has identified knowledge and information sharing as one of their primary management tools to overcome current accident risk in chemical facilities. The result is the rapid expansion of information sharing and knowledge dissemination activities among Member States specifically targeting government and private sector officials who interact with chemical facilities.

OPCW has been developed a data based on chemical accident as a part of the lessons learnt from previous incidents. Also recently the Technical Secretariat of the OPCW has been engaging with Member States to develop best practices on chemical safety and security management to prevent accidents and potential misuse of chemicals.

Keywords: PSMS, accident risk, management tool



DOUGLAS LEECH

Title:

Performance indicators

Abstract

A healthy relationship between regulators and industry in the UK allow the sharing of specific data gathered during site visits with sites and their requisite trade associations. This data is aggregated and shared with members to allow each company to benchmark performance encouraging companies to improve themselves in relation to their peers.

Keywords: performance indicators, benchmark



WILLIAM GARCIA

Title:

Process & Plant Safety KPIs

Abstract

Tracking, evaluating and learning from Process&Plant Safety related incidents is proven practice in the chemical industry for decades. Learning from incidents has been key to improve process safety to today's low levels which however have been stagnant in the past years.

In order to achieve a further reduction of process safety incidents, ICCA and Cefic have set up and issued a new guidance in 2016 which – for the first time – couples process-related incidents with the hours worked in chemical industry, yielding a true process safety INDICATOR. Other than existing databases like the JRC's eMARS, the reporting starts with very low level incidents and will become mandatory across the chemical industry by 2020. Close tracking of the progress will be done through the Responsible Care Leadership Group and national associations have already begun to roll out the program.

Keywords: process safety indicator, leadership, CEFIC



ASBJORN UELAND

Title:

Trends in Risk Level in the Norwegian Petroleum activity (RNNP)

Abstract

A tool to measure and improve health, safety and environmental conditions in this industry. The results of the process are presented in annual reports.

The RNNP process is based on two methods which complement each other.

Describing defined hazard and accident conditions (DFUs) – indicators which are critical for safety and the working environment – has permitted a set of measuring tools to be developed. These provide information about trends in risk level on the NCS.

Questionnaire surveys, interviews, fieldwork and other studies also form the basis for social science analyses.

The project focuses on personal risk and includes

- major accidents
- work accidents
- selected working environment factors
- acute discharges.

The studies are confined to our area of authority, with the exception of helicopter transport of personnel. The latter is covered in cooperation with the Norwegian Civil Aviation Authority and helicopter operators on the NCS.

Work covers all permanent and mobile facilities on the NCS; transport of personnel by helicopter between departure from/arrival at the heliports to landing on/departure from the facilities; the use of vessels within the safety zone around the facilities eight land-based plants.

Keywords: risk level, RNNP process, indicators



ROLAND FENDLER

Title:

Approaches for the Measurement of Safety Performance

Abstract

The presentation gives an overview of the OECD recommendations related to monitoring of safety performance and approaches for monitoring of safety performance.

The monitoring of safety performance (of enterprises and in authorities) is already included in the recommendations in the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response issued in 2003. The evaluation of notified accidents may be regarded as one possible approach for that. But no accidents means not that the safety performance is good because major accidents are (fortunately) rare events for an enterprise. The evaluation of the results of checks by experts and inspections by authorities at installations seems to be a better approach but has some restrictions. State and activity indicators were developed and recommended by the OECD to measure the development of safety performance of enterprises and authorities. In addition the OECD recommends in an addendum to their Guiding Principles the monitoring of Safety Culture / Safety climate. Unfortunately less is known on the application of the OECD Safety Performance Indicators and the monitoring of safety culture / safety climate in chemical enterprises.

Keywords: perspective, competent authority, cybersecurity



SVETLANA STIRBU

Title:

Challenges in Seveso implementation

Abstract

Moldova has a number of industries where in principle – just as in industries in other countries – accidents can happen. Although Moldova knows about its types of industries and where they are located, there is insufficient insight in their performance, status of compliance with legislation and the (immediate) risks for human health and the environment in case of an accident. The current situation can be qualified as vulnerable.

On the short and mid-term high priority must be given to a ‘State of the Art’ inventory of all industrial sites, their hazards, the potential risks, insight in their safety aspects, safety awareness and safety management, as well their safety culture. Also their performance based on these aspects, as well their compliance behavior with applicable legislation should be taken into account. Based on that, inspection programmes need to be developed, supported by effective legislation and permits.

Every industry has a certain level of risk. The level of safety of an industry very much depends on how its operators manage their risks and how ‘safety’ is embedded in the culture of the industry and adapted, as well managed with full commitment of the leaders of the industry. Only then the industry will be successful and minimize their risks on accidents with severe (and costly) consequences. Moldova has important challenges here and still a long way to go.

Keywords: state of the art, performance, awareness



ZUZANA MACHATOVA

Title:

Safety report is linked with major accident?

Abstract

Safety report is linked with major accident?

- Description of several accidents
- Status of the safety reports
- Causes of accidents
- Risk assessment in safety report
- Processing lessons learned.

Keywords: lessons learned, accidents, safety report



ELITA SKRIBNOCSKA

Title:

Accident Risk Assessment in Latvia

Abstract

The presentation will cover the following issues:

- Highest risk industries in Latvia
- Industrial Accident Risk Assessment Procedure
- Industry process safety performance, Strengths and Weaknesses.

Keywords: risk assessment, accident, industries



BALÁZS KOVÁCS

Title:

How we measure chemical accident risks arising from different sources

Abstract

- Executive summary of our ongoing national project
- GIS based integrated risk assessment system
- Newly developed GIS based quantitative and semi-quantitative methods
- Affected chemical risk sources: hazardous establishments, transport of dangerous goods, other sites with any activity related to dangerous materials
- Expected outcomes: source-, territorial unit- and settlement specific risk values
- Effective, risk based decision support for authorities, defence administration.

Keywords: GIS, quantitative and semi-quantitative method, risk sources



JASMINA KARBA

Title:

How do we know if we are reducing chemical accident risks – perspective of a “practitioner”

Abstract

1. We know as much as hazard analysis and risk calculations/qualitative assessments combined with on-site safety audits tell us.
2. Is this enough? What about complacency?
3. “Conventional” tools shall enable competent authorities to have a picture of safety performance trends in the country.
4. Measuring safety performance trends across industry/across EU is duable – but: industrial safety is complex matter accompanied with uncertainties. No easy way without a thorough analysis.
5. Could limited number of selected indicators give a picture of realistic trend and inform us of areas where we need to do more?

Keywords: indicators, safety audits, risk assessment



MATILDA LIKAJ

Title:

Albania's situation on Performance Measurement for chemical accident risk

Abstract

The presentation will focus on the following aspects:

Highest risk industries or sites and chemicals of concern

Most vulnerable issues on SEVESO implementation

How to improve performance with SEVESO implementation in the next years.

Specific indicators of Albania's progress in this area.

Furthermore, challenges with improvement:

Increasing capacities at national, regional and local level, by training activities in the way to improve the knowledge of competent authorities and industrial operators related to:

- the establishment of safety objectives,
- safety standards,
- guidelines on best practice regarding safety technology,
- safety reports,
- safety management systems as well as reporting and inspection regimes

Keywords: perspective, competent authority, cybersecurity



DRAGANA RAONIC

Title:

Challenges in Seveso transposition

Abstract

The presentation will focus on the following aspects:

How to transpose the SEVESO directive and its challenges.

Furthermore, challenges with improvement:

Keywords: challenges, transposition, Seveso



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Session 2

Integrity of installations and equipment



JULIE SHARMAN

Title:

Outcomes from a strategic approach to plant ageing at Seveso establishments in Great Britain

Abstract

Seveso III makes specific mention of the need to control risk associated with ageing plant.

Building on research and previous inspection experience the Competent Authority adopted a twin track approach with the objective to cover all Seveso establishment in Great Britain where plant ageing might be an issue. A programme of inspection by mechanical engineering specialists commenced in 2010 alongside stakeholder engagement with key Trade Associations and professional Engineering Institutions to raise awareness and address sector wide issues.

Keywords: inspection, plant ageing, awareness



FABRIZIO VAZZANA

Title:

The ageing challenge in Italy

Abstract

The Seveso III Directive (2012/18 / EU), implemented in Italy by the Legislative Decree no. 105/2015, imposes an obligation to provide a plan for monitoring and control of risks related to ageing (corrosion, erosion, fatigue, creep) of equipment and systems that can lead to loss of containment of hazardous substances, including the necessary corrective and preventive measures.

The presentation aims to focus on three important aspects of this issue:

- an overview of the Italian law and national standards concerning ageing
- examine the results of the SMS inspections carried out during the last year, to highlight the weaknesses that emerged on a sample of approximately 40 establishments
- give some examples on how organizations manage ageing plants and installations, through specific procedures oriented to the “asset integrity management”, with a brief description of the processes and methodologies implemented.

Keywords: ageing, fatigue, corrosion, national standards



ROMUALDO MARRAZZO

Title:

Ageing of hazardous installations as a potential contributors to major accidents: some events occurred at chemical and petrochemical Italian establishments

Abstract

The paper is aimed at explain the analysis of some industrial accidents, that recently occurred at chemical and petrochemical Italian “Seveso” establishments, where ageing mechanisms have been identified as a significant cause, on the basis of data and information taken from the national accidents register realized by ISPRA.

It’s particularly presented the events report and the dynamics and description of the causes and consequences of the accidents are detailed. The analysis of technical and organizational factors related to accidents causes is provided, presumably to be found in ageing problems and asset integrity of hazardous installations (deterioration and degradation caused by corrosion, erosion, strain), with a focus on corrective actions taken by the authorities and the operator.

Finally, some lessons learned and return of experience are examined, regarding the extent to which ageing of “Seveso” installations are recognized as a potential contributor to major accidents and the methods used to assess industry’s response to ageing issues.

Keywords: ageing, dynamics of causes, contributor to major accidents



ANITA MILOŠIĆ

Title:

Example of planning to reduce risk and ensure integrity of the petroleum storage depot

Abstract

Sites for storage and handling of petroleum products are widely spread over Europe. Compared to other SEVESO installations, the activities of these depots are “rather simple”. A typical petroleum depot consists of unloading facilities, storage in several atmospheric tanks and loading facilities for products delivery (trucks, wagons). The most of petroleum storage depots in Croatia were built in 1980'tis. The aging of installations has become a severe concern and a great challenge as for operators as well for the competent authorities. Proper planning to reduce risk and ensure integrity of the petroleum storage depots is very important task for the operators. The example of “good practice” in implementation of all necessary measures from maintenance and inspection programme for petroleum storage depot is given in the presentation, from the competent authority inspections' point of view. Some new challenges, like cyber security, appear too.

Keywords: petroleum depot, integrity, maintenance, aging



JAN KANDRAC

Title:

Need for risks reduction for LPG and Ammonia storage depots in Slovak Republic

Abstract

Lot of bulk storages in LPG and Ammonia storage depots are at its technical life limits and they are equipped just with minimal number of safety components. Often they are in vicinity of residential buildings and their social risk is not on acceptable level.

The risk reduction may be achieved by installation of reliable technical barriers, but it has significant impact on operators competitiveness

Keywords: risk reduction, ammonia, storage depot



PAWEL DADASIEWICZ

Title:

Explosion and fire in a chemical plant

Abstract

The presentation will focus on an accident that occurred at a chemical plant

Chemical plant; upper-tier establishment,

Production of fertilizers,

Ammonia production unit, heat exchanger (HE)

Substance involved: H₂.

Keywords: H₂, fertilizers, explosion



DIMA KATSARAN

Title:

"Ammonia Crisis" in Israel – Debate on Integrity of Ammonia Reservoir

Abstract

Haifa ammonia reservoir, which has a capacity of 14,000 tons, exclusively serves the national ammonia supply chain in Israel for more than 30 years. The tank owned and operated by "Haifa Chemicals Ltd." - worldwide fertilizer supplier and the main ammonia consumer in the country.

Since its establishment, threats of major accident at the site were considered and discussed at all levels including Israeli government. In 2012 a decision was made: the large quantity storage tank will be shut down and substituted by ammonia production plant in unpopulated area in three years. However, the tendering process for new facility construction had failed because of absence of interested investors and entrepreneurs.

In this situation Haifa mayor appealed to the court, backed up with report of 10 professors from different disciplines in the Israeli academy, including Nobel Prize winners, claiming that the ammonia reservoir is immediately dangerous to life and health of Haifa citizens and should be shut down without further delay. The appeal included number of claims, mainly about mechanical integrity gaps due to poor maintenance, due to lacks in monitoring the plant ageing and due to unacceptable risk in case of earthquake, terrorist attack and wartime threats. The court accepted the appeal and ruled shutting down of the reservoir in a period of two months.

The decision of the court caught both the industry and the regulators unprepared and led to ammonia crisis. The regulators and the operator had no plan for safe emptying of the reservoir in such short timeframe. Moreover, there was no prepared alternatives for ammonia supply, which could be implemented immediately. Those objective reasons caused lack in ammonia through all the country, which is vital raw material in many types of industries.

The presentation will focus on the risk reduction plan during the construction of Haifa ammonia reservoir, on the gaps in mechanical integrity highlighted by "professors' report" and on the weaknesses of the regulation activities undertaken.

Keywords: ammonia, regulation, claim, risk reduction



VIBEKE HENDEN NILSSEN

Title:

Ammonia storage – public awareness "

Abstract

The presentation will focus on a case regarding storage of ammonia that created a lot of public debate and local engagement.

The world's largest ammonia tank (anhydrous) is located in the largest industrial site in Norway, not far from populated areas.

In 2006, the owner and authorities started discussions regarding the future inspection programme for the tank.

Some employees were worried, did not agree with the owner, and went to the media, and of course, this resulted in a growing concern in the population living in the surrounding areas.

Vast discussions and evaluation processes ended up with a different inspection programme.

We will give a brief summary of the conclusions after the inspections, and information regarding how we have used a scenario connected to this tank in our National Risk Analysis.

Keywords: ammonia storage, public awareness, national risk analysis



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Session 3-4

Security and safety challenges associated with IT technology and
automation in major hazard industries



MARC HOHENADEL

Title:

Cybersecurity of Industrial Control Systems: New technology challenges, facts & constraints and international policy context

Abstract

Cybersecurity aspects of industrial control system is an emerging hot topic nowadays. Some of the most important technical challenges will be presented together with some of the constraints the operators have to deal with. Finally, an overview of the international policy context will be presented, with highlights on the EU dimension.

Keywords: technical challenges, cybersecurity, international policy



ASBJORN UELAND

Title:

What we think and what we know

Abstract

In October -16, media published that the Statoil refinery at Mongstad, Norway was shut down due to restart of a server done by IT personnel working remote from India. The incident should also have caused leakage of hydro carbons. Petroleum Safety Authority Norway have had an audit to verify the Cyber Security program at Statoil.

This presentation will look into some of the challenges in operating and protecting the industrial control systems. Further we will look into the differences between media presentation and facts and how the field of Cyber Security has evolved.

We will also get a preview into the results from an ongoing set of audits that the Petroleum Safety Authority Norway is doing towards the operators at the Norwegian Continental Shelf

Keywords: lessons learned, accidents, safety report



WERNER COOREMAN

Title:

Cybersecurity and process control systems in chemical plants: action needed?

Abstract

Industrial control systems in use in the chemical sector today, were not necessarily developed with cybersecurity in mind. But now, as these systems are more and more connected into enterprise wide networks, their vulnerabilities not only become apparent but are also multiplied by the additional security vulnerabilities related to company networks. Threat agents worldwide are rapidly becoming aware of this and there is a potential for disastrous attacks on chemical infrastructure.

In order to establish a cost-efficient protection against these threats, authorities and industry have to work together. Understanding the threat, but also the target becomes key for both to be able to come to a reasonable but effective approach.

This presentation aims at pointing out a possible way forward to achieve this.

Keywords: cybersecurity, process control systems, networks



ALESSANDRO LAZARI

Title:

Introduction to the European IACS components Cybersecurity Certification Framework (ICCF)

Abstract

The principal goal of the ERNCIP Thematic Group on "IACS components Cybersecurity Certification Framework" (ICCF) is to propose an initial set of common European requirements and broad guidelines that will help fostering IACS cybersecurity certification in Europe. In February 2017, the Group has published a report titled: "Introduction to the IACS components Cybersecurity Certification Framework" which describes the Framework, its main elements and makes suggestions for its governance, adoption and implementation.

Keywords: ERNCIP, cybersecurity



TIMO TALVITIE

Title:

Remote operated production plants - Safety concerns

Abstract

Unmanned and remote operated production plants – safety concerns

Licensing process

Apply a license – Give an official permission. Identified all hazards, consequences of the possible accident are analysed and the necessary control measures are in place. Risk of fire/explosion after mechanical damage due to operation conditions (high temperatures/pressures). Detection and control system existing to stop the release. Company's reason for the appeal was that remote operated hydrogen plants is normal practise in several European countries.

Safety concerns

Gas leak indicators and other detecting instruments, regulating and control devices

Precautionary actions: warn the other establishments/personnel near-by. Local operator is alerted and waked up in the bed and he drives to the site. Lack of communication. Operator's and supervisor's understanding and knowledge of the remote control system

Keywords: remote operation, safety concerns, precautionary actions



FRANCK PRATS

Title:

Smart factories for chemical sector; threats or opportunities for the risk control?

Abstract

The integration of new information technologies (virtual reality, robot, artificial intelligence, etc.) transforms the production methods of the mechanical industries (automotive, aeronautic). This transformation leads in particular to a new relationship with the end user and a greater flexibility and reactivity of the production chains.

Is it possible that these concepts are implemented simply in the chemical sector? Has it already started? What are the potential impacts on chemical hazard control?

This presentation is first thoughts on the foreseeable evolution of methods for the development of new substances and production of chemicals and their potential impacts on risk assessment and management at chemical sites.

Keywords: methods, risk assessment, risk management



SARABJIT PUREWAL

Title:
Cybersecurity

Abstract

The risks from cyber threats to safety systems are increasing. Operators need to have adequate measures in place to ensure these risks are properly managed.

The UK Health and Safety Executive published its operational guidance on cybersecurity in March 2017.

This presentation will cover:

- Why cybersecurity is an issue
- How cyber-threats can impact on MAH and safety
- Available guidance
- HSE operational guide, its status, scope and how and when it will be used.

Keywords: Cybersecurity, guidance, safety systems



ADRIAN LUX

Title:

Safety and Security in chemical plants – a LANUV project

Abstract

The convergence of IT & OT leads to a completely new initial situation with regard to the assessment of safety risks

The aim of our survey project is to determine the previous dealing with this issue as well as its integration into the safety management system

Additionally, the companies get an opportunity to examine which of the various aspects of cybersecurity regarding to plant safety have so far been considered

Keywords: IT, SMS, safety risks



TANJA HEINIMAA

Title:

IT technology: also opportunities in Seveso-supervision

Abstract

At the moment we are discussing a lot about the challenges associated with IT technology in Seveso supervision. However, it is also important to utilize the new opportunities IT technology provides to the Seveso authorities. IT-tools etc can both improve safety and e.g. make inspections more fluent and efficient. In Finland Tukes as a Seveso authority has started a project on this topic. The main aim of the project is to foresee what kind of inspections will be in 10 years and to list facts, which should be solved in advance. Also short-term development (e.g. inspection reports, inspections of group of companies, practices in “self-inspections”, co-inspections with other authorities, inspections themes, use of tablet computer) will be done.

In a short presentation it will be presented the main idea of the project and in that way to start a discuss on the topic. Hopefully Finland is going to have good practices from other authorities in order to improve Seveso supervision.

Keywords: IT technology, inspection, safety



NASSER JABER

Title:

Hazmat info and technology used to response for hazmat accidents

Abstract

The presentation will focus on classification of hazmat materials, the tool cargo decoder, and the eight step hazmat process:

- site management and control
- problem identification
- hazard and risk evaluation
- personal protective clothing and equipment
- information management and resources coordination
- implementation of response objective
- decontamination
- termination.

Keywords: hazmat material, PPE, decontamination



REELIKA KUUSIK

Title:

Cyber security incident in Seveso establishment

Abstract

In 2016 we had a cyber incident, which took place in one of the biggest Seveso establishment in Estonia – VKG (Viru Keemia Grupp AS). VKG is the largest manufacturer of shale oil and chemicals in Estonia. In addition, VKG is a vital service provider. Information System Authority (RIA) helped to solve this incident.

Keywords: cyber security, incident, shale oil



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Session 5

Organisational change and influence of enforcement



RAGNHILD G LARSEN

Title:

OECD - Draft Guidance on ownership Change in Hazardous Industry

Abstract

- The presentation will give information regarding a project performed by the OECD Working Group Chemical Accidents (OECD-WGCA), and the results of this project.
- Many countries experience change of ownership in chemical industry. Does this affect safety in the companies that change hands? Can sales to less safety-oriented companies have a negative long-term effect on safety? How can a good process of ownership change be achieved for all involved parties (buyers, sellers, employees, others)? How should authorities follow up when a hazardous site changes hands?
- OECD – WGCA wanted to look closer into these matters, and a steering group under WGCA has been working with this matter since late 2013.
- The presentation will tell a little about the different activities of the project, but will mainly focus on presenting a new guidance on ownership change that is now close to finalization.

Keywords: ERNCIP, cyber security



GIUSEPPE ASTARITA

Title:

Process & Plant Safety - A Matter of Governance

Abstract

Leaders need to understand risks:

Major accidents as credible business risks

The integrated nature of major hazard business/supply chain

Process Safety having equal focus to other business processes

OECD draft guidance on ownership change transactions.

Keywords: OECD, leadership, business risks



DANIELE BARANZINI

Title:

Organisational change and safety

Abstract

This presentation is about organizational change and safety in chemical domain taking into account how the change is addressed by single or network of organizations acting in competition or collaborative structures under safety and risk regulatory requirements. Some key aspects about capacity in the management of change with reference to the domain of chemical accident prevention and preparedness will be highlighted. Change as a process, as well as the role of measurement of change, will be reviewed on the light of baseline and research evidence. The key message is that change at organizational level in chemical accident prevention and preparedness requires presence of a safety management system capacity which anticipates the demands to optimize change processes and effects over time.

Keywords: organisational change, MoC, measurement



RAN COHEN

Title:

6 tonnes ammonia leakage as accelerator for modification of enforcement ,regulation and industry involvement

Abstract

Operation of ammonia facilities becoming more automatically and relying on relatively small number of competent staff, rather part of the plant or subcontractors.

From the regulator point of view in Israel, the responsibility for inspection the safety plan, emergency preparedness etc. are dividing between 4 main competent authorities which are OSHA (Ministry of Labor), Home Front Command Ministry of Environment and Fire Service Authority.

When two years ago, regulator enforcement 'blind spot' met gaps in safety management measures in plant which locate 30 Km from Tel Aviv, it was ended up in releasing of 6 tonnes of ammonia , evacuation of industry area and killing one firefighter.

The presentation will describe the main steps that made in the last 2 years, since the accident happened, to face continues industry organizational changes to minimize the probability for that kind of event would happen again.

Keywords: ammonia facilities, enforcement, evacuation



VINCENT ATTARD

Title:

Potential multi-operator challenges associated with new LNG Seveso site

Abstract

In 2013 it was decided to build a new Natural Gas fired power station and the associated LNG storage and regasification facilities in Malta. This posed a particular challenge to the Control of Major Accident Hazards (COMAH) Competent Authority (CA) because in Malta there was practically no experience and very limited knowledge on LNG. This project meant that there would be a new Seveso installation with 125,000 m³ of LNG within an existing Seveso site with gasoil and HFO. From one operator there are now three operators with a number of sub-contractors. The COMAH CA engaged a foreign consultant and immediately started talks with the operators and insisted from the onset that the site as a whole would need to conform to the requirements of the Seveso III Directive.

Keywords: LNG, regasification, consultant, multi-operator



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Session 6

Challenges in substance classification of non-harmonised
substances for Seveso Directive implementation



MARK HAILWOOD

Title:

Challenges in substance classification – setting the scene

Abstract

The application of the GHS Substances Classification Criteria through the application of the CLP-Regulation to major accident hazards was one of the major changes in adopting the Seveso III Directive. Despite the activities of the Technical Working Group on Seveso and GHS (see report published 2011 – EUR 24724 EN) the application of the new classification system has highlighted a number of issues, some of which are not new, in the practical application.

These include:

- Classification of substances for which there are no harmonized criteria, or for which the harmonized criteria do not cover all hazard categories;
- Managing the classification of mixtures, in particular where the component substances have different hazard;
- Acceptability of the information given in Safety Data Sheets;
- Classification of wastes;
- Definition of “alternative fuels”;
- Dynamics of the CLP-Regulation and its impact on the scope of the Seveso III

Directive;

- Identifying establishments potentially covered by national major hazard regulation or policies;
- Managing substances which, in the form that they are available on-site, cannot lead to a major accident.

The CLP-Regulation has a dynamic scope due to two independent processes. On the one hand it is the EU implementation of the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) which has a revision and improvement process that leads to a biannual amendment of GHS.



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On the other hand the registration of hazardous substances under REACH has led to a large database of individual classifications of substances by manufacturers and importers (see <https://echa.europa.eu/en/information-on-chemicals>). These are often not harmonised and thus discussions arise as to how this information is to be used. This uncertainty may be compounded by the fact that a substance/mixture which is supplied through two different manufacturers may have two different but correct sets of classifications. This can lead to serious unintended consequences with regard to scope of a Seveso establishment as the supplier route may be critical to whether thresholds are reached or not.

The challenges are faced both by operators and inspectors in managing these issues. There is a lack of clarity in some aspects and the legal uncertainty makes decision making by authorities with respect to enforcement or by operators with respect to siting or investment difficult.

Keywords: Seveso, CLP regulation, classification



DOUGLAS LEECH

Title:

Linking Seveso with CLP makes Self classification a reality we have to come to terms with!

Abstract

There are a lot of comments and issues raised regarding the process of 'self-classification' and its apparent effect on the operation of Seveso. However, self-classification is a key part of the CLP regulation, specifically with regard to preparations or mixtures, where companies can use various techniques to classify a blend of substances. Interpretation of data regularly leads to similar substances and preparations being classified differently. As a consequence of linking the two regimes the outputs of self-classification are becoming more apparent and in some cases more controversial and disruptive for industry

Keywords: CLP regulation, self-classification, substances



CLAES LOFSTROM

Title:

Discussion on Seveso classification of complex mixtures containing named substances

Abstract

A case from last year highlights some issues related to Annex I. A mixture contained both a named compound (Part 2) and a non-named compound (Part 1). For both compounds, the concentration was sufficient to merit a CLP classification for the mixture identical to the individual compound in question. The two compounds have different properties (e.g. only the Part 1 compound is hazardous to the environment). What threshold values should be used when evaluating the mixture for environmental hazards?

Our preliminary standpoint is that the threshold for the Part 2 compound should be used. However, we feel that there is room for further discussion and that other, related, issues are highlighted by our example.

Keywords: classification, mixtures, named substances



Colonel, PhD, Asst. Prof. VALERI
BAGIYAN

Title:

Strengthening Preparedness for Chemical Accidents in Armenia using the Flash Environmental Assessment Tool

Abstract

This tool is the result of an international initiative undertaken by JEU (the Joint United Nations Environment Programme and Office for the Coordination of Humanitarian Affairs). FEAT is primarily of interest to countries that use emergency preparedness and response measures in order to improve their chemical safety. In this regard, for the implementation of FEAT at the national level UN experts have chosen Armenia as a pilot project, taking into account the diverse nature of the chemical industry of the republic.

The aim of the work on chemical accident preparedness in Armenia is to:

- Introduce technological hazard risk reduction, with specific focus on chemical accident preparedness, into Armenia's disaster risk reduction framework;
- Apply the Flash Environmental Assessment Tool (FEAT) methodology to a number of facilities in Armenia; identify gaps and develop recommendations for improvement in the management of chemically hazardous facilities;
- Integrate environmental emergency preparedness and chemical accident preparedness elements in the education and qualification of specialists;
- Identify gaps in chemical accident legislation and provide recommendations for follow-up.

Keywords: FEAT tool, environmental assessment, risk reduction



DIMA KATSARAN

Title:

Explosion hazards of commonly used organic peroxides

Abstract

The sensitivity to temperature, shock, friction and other factors is the basis for classifications of organic peroxides. UN "Recommendations on the Transportation of Dangerous Goods" provides basic rules for the classification. Still, there is some contradictory data regarding the sensitivity parameters, which makes assessing the risk of organic peroxides very confusing and problematic, mainly in the field of explosion hazards.

Dutch publication PGS 8 proposes a slightly different solution for classification of organic peroxides, however, it isn't unambiguous. For instance, formulations of organic peroxides, which do not require explosive label, are clearly marked as substances that can undergo explosive decomposition. In addition, the publication claims that organic peroxides pose risk of explosion of "some containers, but no mass explosion" without any satisfactory explanation.

Moreover, separation distances policies, that could be found in literature, are relatively short and, as far as we can judge, it regards to fire risks of organic peroxides, but does not deal with the consequences of explosion.

Dividing organic peroxides into explosive and not explosive based on formulation concentration / UN number seems to be worldwide challenge. HFC made number of administrative decisions to establish proper regulatory approach in Israel to the explosive risk of organic peroxides. Still, we are seeking for professional information and knowledge in this field to fine-tune our policy.

Keywords: UN, explosion hazards, organic peroxides



PARVOLETA LULEVA

Title:

Challenges for Seveso implementation arising from self-classification of substances

Abstract

- interlinks with REACH registration and C&L Inventory;
- communication in the supply chain;
- examples (physical and human health hazards).

The presentation will focus on the experience we have in using the ECHA data bases for the purposes of Seveso classification..

Keywords: REACH, C&L inventory, ECHA



IRMA GURGULIANI

Title:

Chemical safety issues in Georgia

Abstract

- Stakeholder agencies
- National strategies and legislation on chemical safety
- New developments
- National priorities

Keywords: chemical safety, legislation, priorities



HANA IMERI

Title:

Substance classification in Kosovo

Abstract

This presentation is about Substance Classification in Kosovo, the legislative basis for classifying hazardous substances (AI No. 10/2011) and the classification of hazardous substance by the Ministry of Environment and Spatial Planning. The Ministry has identified 10 operators with limited quantities of hazardous substance for which exists the informing obligation and 18 operators with the obligation of drafting the security reports.

Keywords: classification, spatial planning, security reports



CHRISTINA IHLEMANN

Title:

Risk from intermediate temporary storage and ammonia and chlorine

Abstract

The presentation will focus on the recommendations on intermediate temporary storage of dangerous substances, and storage of ammonia and chlorine.

The intermediate temporary storage of dangerous substances should be included in the Danish implementation of Seveso because they may pose a permanent risk to the surroundings despite the fact that each transport is there temporarily.

Furthermore, it is recommended that storage of ammonia and chlorine close to residential areas or other sensitive uses should be classed as lower tier establishments.

Keywords: intermediate temporary storage, ammonia and chlorine storage, residential areas