



Critical Infrastructure Protection

Georgios Boustras, BEng(Hons), MSc, PhD, CEng, CSci,
MIChemE, MIFireE

Professor in Risk Assessment

Wednesday 15 July 2020



Facts and Figures

- Established in 2016
- Employs 6 Faculty + 10 Researchers + 8 PhD Cand
- Has attracted already in excess of €4 M
- 20+ EU funded projects
 - H2020
 - FP7
 - DG ECHO
 - DG Home
 - DG Justice
 - Research Promotion Foundation



2009

MINISTRY OF DEFENSE
Risk Assessment/Hydrocarbons

2013

H2020 Management Committee

2013

Energy Strategy Council
Republic of Cyprus

2014



FP7 IMPRESS
1st Competitive Funding Success

2014

2014

Report for Ministerial Council

MELOGIC + CP4ALL
2 DG ECHO Projects

2016

2015

2014

2014

2009-2019

Senate Decision to establish CERIDES

2016

EU CIRCLE
1st H2020 Funded Project



3CE + EUSTO
2 DG HOME Projects



EPICURO
DG ECHO Project



WORLD BANK
Consultancy

2 H2020 as Coordinator

2017

2018

2018

2019

2020



8 Funded Projects
H2020, ERASMUS+, CRPF, DG HOME



OENEOWATCH
1st CRPF Coordination



Some factors affecting our discussion

- Natural Hazards (e.g. Solea Fire 2016, Mount Carmel Fire, Mati 2018, Lebanon Wildfires 2019)
- Man Made Disasters (e.g. Mari)
- Climate Change
- Oil and Gas developments (Israel, Cyprus, Greece)
- CoVid19
- Different cultures, same attitudes?
- **All of the above combined**
- **Some of them can be used as hybrid threats**



A proof of the above



Journal of Loss Prevention in the Process Industries

Volume 15, Issue 4, July 2002, Pages 291-303



Review of 62 risk analysis methodologies of industrial plants

J. Tixier ^a, G. Dusserre ^a, O. Salvi ^b, D. Gaston ^b

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[https://doi.org/10.1016/S0950-4230\(02\)00008-6](https://doi.org/10.1016/S0950-4230(02)00008-6)

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Abstract

For about 10 years, many methodologies have been developed to undertake a risk analysis on an industrial plant. In this paper, 62 methodologies have been identified, these are separated into three different phases (identification, evaluation and hierarchisation). In order to understand their running, it seems necessary to examine

Mari Explosion

- On 11 July 2011, a large amount of ammunition and military explosives that had been stored outdoors for over two years at the Evangelos Florakis Naval Base near Zygi, Cyprus, self-detonated, killing 13 people, including the Commander of the Navy, the base commander and six firefighters. A further 62 people were injured.
- The ammunitions had been seized in 2009 from a cargo ship bound for Syria, and were awaiting disposal. The explosion severely damaged hundreds of buildings in Zygi and the nearby Vasilikos power station, Cyprus' largest one, causing widespread disruption in the supply of power to the island.

- The €700 million-power station was reduced to a "mangled shell", and the electricity supply to approximately half of Cyprus was interrupted. The Electricity Authority of Cyprus (EAC) later instituted rolling blackouts in order to conserve the supply and stated that it would import generators from Greece and Israel while the damage, estimated at €2 billion, was being repaired. The rolling blackouts lasted for two to three hours in each area and were planned to affect only residential areas.
- EU estimates that the cost of the explosion to the island could amount to US\$2.83bn, with cost of the power plant itself coming to US\$992m. This was weeks before the Bank of Cyprus and other business leaders said "deep spending cuts are needed fast."

Incidents on CIP can affect societal safety

- **Energy Critical Infrastructure** is the main supporting pillar of National and International economic activity. Possible interruptions on their functionality can cause serious damage to the wider workplace (Varianou et al, 2017). Domino effects from possible interruptions to Critical Infrastructure can cause serious financial damage, among others. “Hundreds of shops across south-east London and north Kent were forced to close and commuters spoke of “incredibly frightening” conditions on the roads as traffic lights failed” (Evening Standard, 2009).

Too much legislation

- Limited human resources due to country size, financial limitations, multi-split of the public sector
- Too much building legislation due to seismicity (natural hazards), or fire regulations (manmade disasters), yet still a large number of WUI (wildland – urban – interface) fires.
- This is due to the fact that the various pieces of legislation do not correspond to each other, the various services do not really communicate with the others.

Society not present

- Current dogma is directed at having maximum power and maximum capacity at (more or less) any given moment
- Current dogma is directed at empowering the State and working without the society
- The society is usually a spectator of a b-class show that leads to further political pressure, which leads to yet more State empowerment and less societal representation.

Prevention or Suppression?

- Need to shift towards a new culture which fosters the emergence of a resilient society
- Motives and schemes for the further enhancement of the voluntary movement (e.g. EU Solidarity Corps)
- Nationwide and regional schemes on the encouragement of prevention (e.g. #RescEU)
- ✓ Do we spend too much and get too little?
- ✓ Do we need to move towards a risk based approach? Rather than a prescriptive code?

Emphasis on Infrastructure but what about the human element?

- European Commission with the Directive 2008/114/EC on the identification and designation of European Critical Infrastructures established ERNCIP (European Reference Network in Critical Infrastructure Protection) which aimed at establishing links between CI's and unofficial, unestablished training
- European Commission funded over 100 diverse projects under the Prevention, Preparedness and Consequence Management of Terrorism and other Security-related Risks programme (CIPS), during the 2007-2012 period.

Emphasis on Infrastructure but what about the human element?

- All this is excellent, yet, we pay emphasis on the infrastructure while we forget what is the important role of the operator, the terrorist, the first responder in the whole picture. Human behavior is not taken into account and emphasis is placed on the development of systems, gadgets etc.
- Can we really model human behavior? In person? As part of a team? During a crisis?

Nicosia Risk Forum #NRF2019 & #NRF2019

CER!DES



Thank you !
Ευχαριστώ!
תודה !
Gracias !
謝謝 !



cerides.euc.ac.cy



cerides@euc.ac.cy



www.facebook.com/cerides

