

THE 21ST CENTURY NUCLEAR SECURITY CHALLENGES – NEW TECHNOLOGIES AND EVOLVING THREATS

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CONTENT

21ST CENTURY NEW TECHNOLOGIES

21ST CENTURY EVOLVING THREATS

AN EXAMPLE

- The evolution of the nuclear industry and nuclear technologies:
 - advanced reactor designs
 - small modular reactors
 - floating nuclear power plants
- Emerging technologies that could have a positive or negative impact on physical protection:
 - unmanned aerial vehicles (drones);
 - cyber capabilities;
 - artificial intelligence;
 - enhanced data analysis;
 - 5G communication technologies;
 - biometrics.

THE EVOLVING THREATS ‘ CHALLENGE

- 21st century characteristics
 - Globalization of world economy
 - Modern communications and global media
 - Religious extremism
 - Universal access to and use of Information
 - Technological innovation
- As a result threats are:
 - more dynamic
 - better financed
 - global
 - changing role of the individual (self-radicalization)

- Developing DBT is a long multi-phase process
- Evolving threats of 21st century may:
 - appear during any DBT development phase
 - include cyber threat
 - remain stealth until activated – sleeper cells may be established and further activated solely through Internet
 - stay separated from main and well known global threats (self-radicalized individuals)
- So the DBT development process should be able to address evolving threats in timely manner
- The DBT review/update should be performed more frequently

EXAMPLE

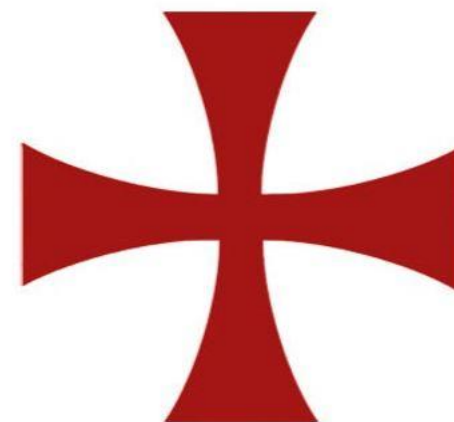
Universal access to and use of information



Who is this?



2083



A European Declaration of Independence

*De Laude Novae Militiae
Pauperes commilitones Christi Templique Solomonici*

By Andrew Berwick, London – 2011

Universal access to and use of information

What is Breivik's manifesto?

- 1518 pages, **48 of them focused on attacks on NPPs**
- Some paragraphs are named as follows:
 - *Using European nuclear power plants as a weapon of mass destruction*
 - *Understanding Nuclear reactor technology*
 - *Nuclear power plant assault strategy: “Operation Regime Ender”*
 - *Radiological Dispersal Devices, RDDs; creating, deploying and detonating radiological bombs in Western European capitals*
 - *End-of-life preparations (describes the consequences of absorbing large dose of radiation, guides how to prepare yourself to sacrifice your life for the Cause)*

What is Breivik's manifesto? (cont.....)

- A different attack scenarios were presented, with or without insiders
- Required technical, human and financial resources were described in details
- Technological information to commit sabotage was described in details

EXAMPLE

Universal access to and use of information

Don't believe in possibility of self-radicalization and using internet to gain knowledge on preparation of malicious acts? Here are the facts:

- In 2019 the Breivik's manifesto is still available for download
- In 2019 U.S. Coast Guard Lieutenant Christopher Hasson was charged with planning a mass-casualty attack modelled in significant part on Breivik's strategy, and bearing the marks of his belief system. Hasson closely followed Breivik's manifesto in:
 - amassing weapons and performance-enhancing drugs;
 - creating a carefully categorized list of assassination targets.

THANK YOU FOR YOUR ATTENTION !