

ADDRESSING EVOLVING THREATS IN DBT PROCESS Bulgarian Experience

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**Assoc. Prof. Dr. Latchesar Kostov,
Chairman of the Nuclear Regulatory Agency**



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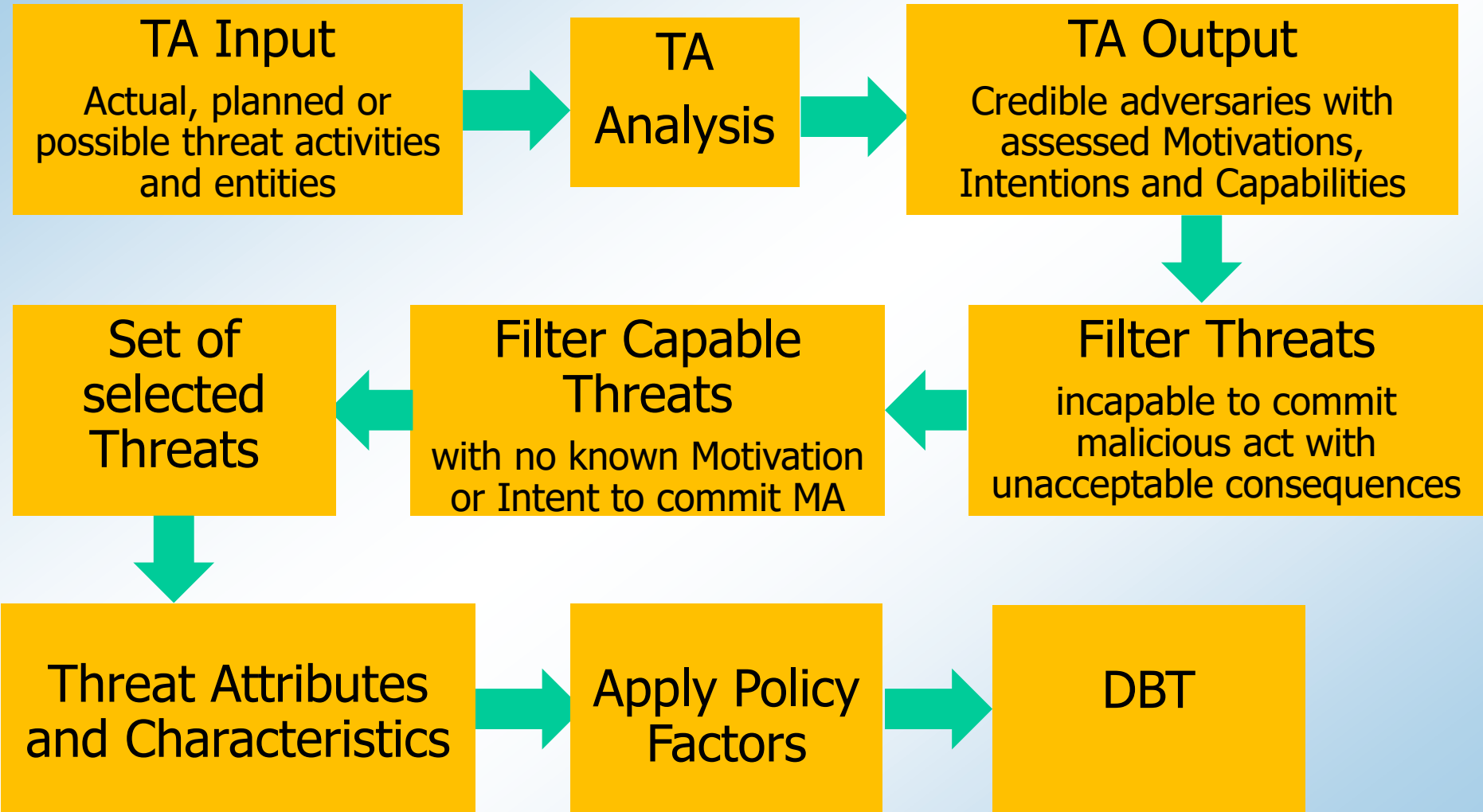
THE EVOLVING THREATS CHALLENGE

DBT PROCESS IN BULGARIAN LEGISLATION

DEVELOPMENT OF DBT IN BULGARIA

- IRT-2000 research reactor, 1961
 - since 1989 in extended shutdown state
- Six power reactors on Kozloduy NPP site
 - Units 1-2, 440 MW, 1974 - 1975 (shutdown in 2002, under decommissioning)
 - Units 3-4, 440 MW, 1980 - 1982 (shutdown in 2006, under decommissioning)
 - Unit 5, 1000 MW, 1987 (in operation)
 - Unit 6, 1000 MW, 1991 (in operation)
- Wet Spent Fuel Storage Facility, 1991
- Dry Spent Fuel Storage Facility, 2016

DBT DEVELOPMENT PROCESS (NSS-10)



- 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

Act on the Safe Use of Nuclear Energy (ASUNE)

- Sets the fundamental safety and security principles
- Establishes independent and competent regulatory body
- Specifies mandatory requirements to applicants and licensees
- Defines strict licensing regime, based on comprehensive review and assessment of all aspects of safety and security
- Establishes inspection and enforcement framework

Secondary Nuclear Legislation

- Regulation on Physical Protection of Nuclear Facilities, Nuclear Material and Radioactive Substances
- Total 24 regulations for enforcement of the ASUNE

KEY AUTHORITIES

- Nuclear Regulatory Agency (NRA)
 - Establishes regulatory requirements for PP of NF, NM and radioactive sources;
 - Exercises regulatory control;
 - Co-ordinates the activities of all involved agencies;
 - Approves the DBT
 - Evaluates the PPS effectiveness in accordance with the DBT
- State Agency “National Security” (SANS)
 - Performs threat assessment;
 - Provides threat assessment information to NRA and licensees
 - Prepares informational, analytical and prognostic reports for the Government and for the state authorities.

- Act on Safe Use of Nuclear Energy
 - The PPS of nuclear facilities, as well as the PPS of NM in transport, shall be designed and their effectiveness shall be evaluated in accordance with the DBT
 - The DBT shall be developed by the licensee on the basis of the national TA provided by SANS and shall be approved by an order of the NRA Chairman after consultation with the SANS
- Regulation on PP of NF, NM and Radioactive Substances
 - PPS should be based on the actual threat assessment
 - During threat evaluation all possible sources of information should be used
 - Insider threats should be taken into account
 - Airborne and stand-off attacks should be considered

Threat assessment and threat information

- The DBT should be developed on the base of threat assessment done for the each particular facility or transport
- SANS should provide the NRA and the licensee with appropriate information about the threat assessment results
- For threat assessment SANS uses the following information:
 - General information about threats to the national security collected within the framework of the SANS's specific duties
 - Specific information about the particular nuclear facilities or transport.
- The NRA, licensees and all state authorities and legal entities should provide SANS with necessary specific information they may possess
- The licensee should inform the SANS about the planned transportation at least one month in advance in order to facilitate the threat assessment

DBT Development

- Licensees develop the DBT
- DBT should contain:
 - Description of all types potential threats in accordance with threat evaluation;
 - Separate analyses of each potential threat;
 - Attributes and characteristics of potential internal and / or external intruders, including number, tactics, weapons, technical equipment, knowledge, skills, vehicles, communication equipment and funding;
 - Information about identified threats that can not be included in the DBT and the protection against which should be the responsibility of the State

DBT Approval

- Licensee submits the DBT to the NRA for approval
- NRA performs review and evaluation of the DBT
- NRA submits the DBT to the SANS for review
- Based on the results of the review the NRA could give direction to the licensee for DBT modification or performance of additional investigation
- NRA approves the DBT after receiving the SANS agreement

DBT update

- SANS performs a TA update and informs the NRA and the licensees
 - annually
 - in case of security environment change
 - upon request
- If needed, the Licensee updates the DBT in accordance with the new threat evaluation.
- New DBT is subject to approval by NRA and SANS

- The new Regulation on PP of NF, NM and Radioactive Substances entered into force on 26 October 2015
- The first draft of the DBT has been submitted to NRA for review and approval in August 2016
- Several iterations of exchanging remarks and corrections have been performed between NRA, SANS and Kozloduy NPP
- The most significant corrections made were about Cyber Threat
- The DBT has been approved by the NRA Chairman on 15 June 2017
- The Kozloduy NPP shall perform a PPS effectiveness evaluation against the approved DBT till the end of 2017

THANK YOU FOR YOUR ATTENTION !