

A Joint Global Initiative & UNSCR 1540 – Workshop

„Appropriate Effective“ Material Control and Accounting and Physical Protection Workshop

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Content

- The German situation
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The Present Situation in Germany

- 17 Nuclear Power Reactors
some of them with Pu-U-mixed oxide fuel
- 5 Research Reactors
one with HEU fuel (research reactor in Munich)
- 1 Uranium Enrichment Facility (max. 6% U235)
- 2 Fuel Element Facility (low enriched Uranium fuel for light water reactors)
- 13 Dry Interim Storages for spent fuel and vitrified waste (CASTOR container)

and

Decision by the former government through a law to quite the use of nuclear energy until 2021.

UNSCR 1540

- Para 3.(b):
Develop and maintain **appropriate effective** physical protection measures.

What is appropriate? (keyword 1)

What is effective? (keyword 2)

What is „appropriate“ – Example Germany

- Appropriate physical protection measures to counter or to withstand the German DBT
- The German DBT is a detailed set of means possible attackers may have available (outsider, insider, coalition out- and insider)
- General rule: if a tool is defined in the DBT (e.g. mass of explosives) the license holder has to design his facility to counter this tool.
- Nuclear facilities built to earlier standards has to be reconstructed and upgraded.

What is „appropriate“ after 9/11 and UNSCR 1540?

Revision and extension of the German DBT in some parts.

Examples:

- Intended aircraft crash
- Attack by a helicopter (to rope down or to land on flat roofs of protected buildings of a facility)
- Cyber attack

What does „effective“ mean?

1. Effective in the design

Example: intrusion detection system at the perimeter

What tools are defined in the DBT to cross the detection system undetected?

In the German DBT one tool is a 10m ladder to build a bridge.

The effectiveness depends on the DBT. What is required based on the DBT?

What does „effective“ mean? (cont.)

2. Effective during operation

The effective function of a physical protection system has to be assured through inspections and maintenance.

In Germany: periodical inspections of all physical protection systems (all 3 months till once a year)

Summarized

An „appropriate effective“ system of physical protection measures as required in UNSCR 1540 is depending on the national DBT.

It is in the states responsibility to develop its national DBT.

We don't have an international accepted „set of criteria“ to assess, whether physical protection measures are „appropriate and effective“ without an evaluation of the national DBT.

How can the development of physical protection be assessed after UNSCR 1540?

How can the international community strengthen the nuclear security physical protection of nuclear material and facilities through the 1540 obligation?

1. Define an international accepted minimum standard of physical protection of nuclear material and nuclear facilities, independent from a national DBT.
2. Conduct regular inspection of the physical protection regime parallel to safeguard inspections.
3. Report to the IAEA or to the 1540 committee.
4. Provide international support to facilities (states) with an incomplete physical protection regime.

Perspective

International:

The Nuclear Security Series Framework should be expanded about a minimum level of physical protection of nuclear material and facilities.

National:

As a first step Germany should prolongate the lifetime of its nuclear power plants.

Germany should play an active role in the international physical protection community.