

**LXIII CICA – XVII SECURITY FORUM KRAKOW 2022**

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**National and international aspects of state security**

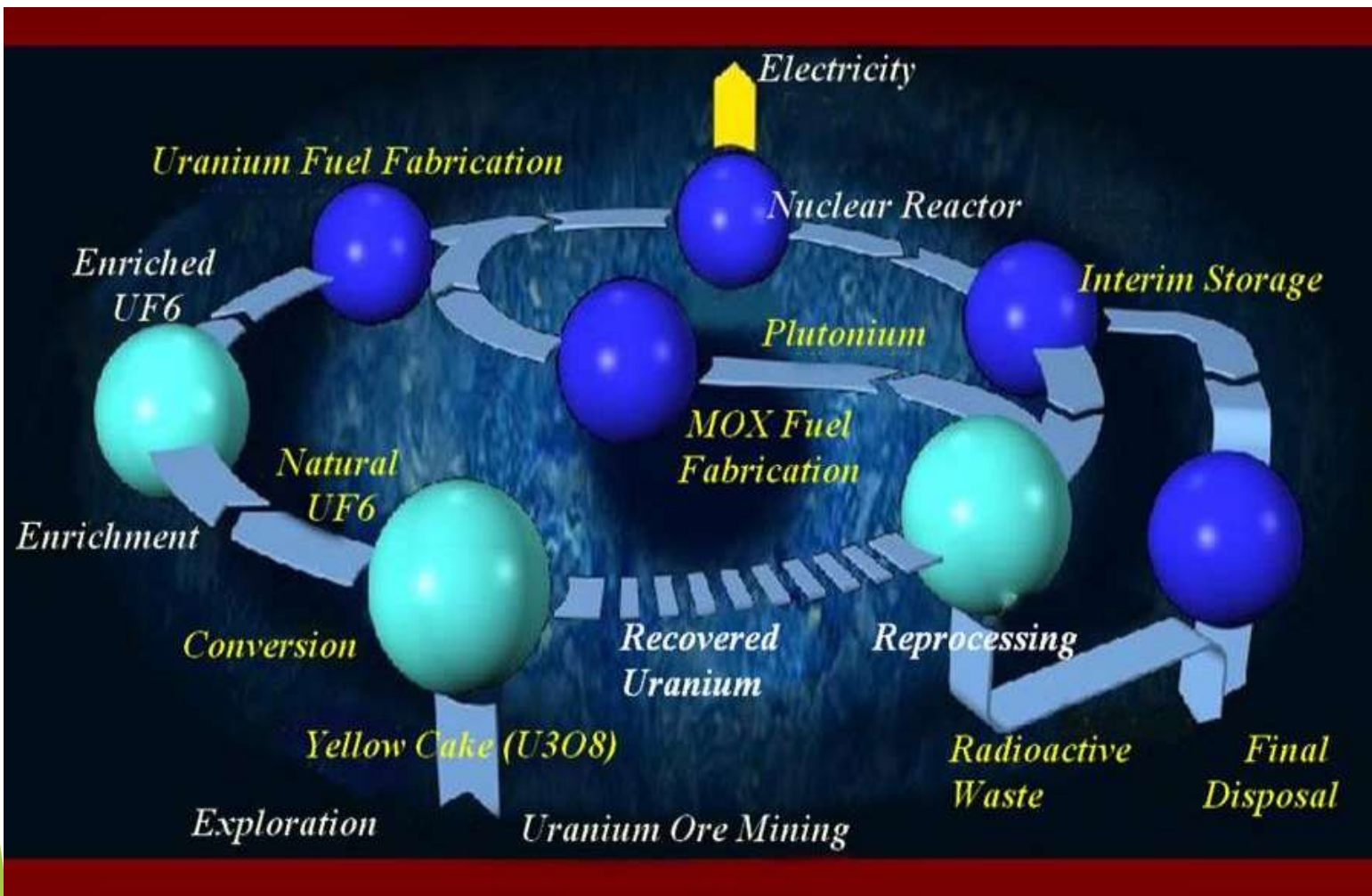
**Threat of nuclear security in the Middle East and beyond**

**by**

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- Due to particularity of nuclear energy, including dual-use nature; the historical human catastrophe of atomic bombardment in Hiroshima and Nagasaki, and past nuclear accidents, the nuclear security is a matter of serious concern
- In-depth understanding of interrelation of nuclear safety, nuclear safeguards, and nuclear security would facilitate efficient, safe and secure utilization of nuclear energy for sustainable development
- The potential danger from tons of high enriched Uranium and Plutonium in nuclear warheads, possible sabotage and misconducts in handling them, is not only a national security concern but a serious threat to international security.



- **There is strong interrelation between “Nuclear Security”, “Nuclear Safety”, and “Nuclear Safeguards”, so called 3S. For each of these three there are international legally binding guidelines.**
- About four-fifths of the **weapons-usable nuclear materials** in the world are in non-civilian programmes. This means not only as the explosive core in active or reserve nuclear weapons, but also as fuel in naval and military research reactors, **highly enriched uranium (HEU) and plutonium** at production sites, in storage, or declared access to military uses, but not yet transferred to other programmes or eliminated.

**Nuclear Safety**

- TMI Accident 1979
- Chernobyl Accident 1986
- Fukushima Accident 2011

**CONVENTIONS**

- Nuclear safety Con.
- Early notification Con.
- Mutual Emergency Assistance Con.
- Nuclear waste & Spent Fuel Con.

**Nuclear Safeguard**

Hiroshima and Nagasaki  
Was bombard by US in 1945

**Treaty on the Non-Proliferation of Nuclear weapons (NPT 1970)**

- Nuclear weapon states (NWS) are not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices and not to assist, encourage, or induce any non-nuclear weapon states (NNWS) to manufacture or otherwise acquire them.
- NNWS are not to receive nuclear weapons or other nuclear explosive devices from any transferor, and not to manufacture or acquire them.
- NNWS must place all nuclear materials in all peaceful nuclear activities under IAEA safeguards.
- All Parties are obligated to facilitate and participate in the exchange of equipment, materials, and scientific and technological information for the peaceful uses of nuclear energy.
- All Parties must pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

**Nuclear Security**

- Terrorist Attack
- Cyber Attack
- Military Attack
- Sabotages

No International Conventions

**United Nations Security Council Resolution 1540 (2004)**

On 28 April 2004, the United Nations Security Council unanimously adopted **Resolution 1540 (2004)** under Chapter VII of the United Nations Charter which affirms that the proliferation of nuclear, chemical and biological weapons and their means of delivery constitutes a threat to international peace and security.

**Nuclear security summits:**

- 2010 United States
- 2012 South Korea
- 2014 Netherland
- 2016 United States

**Comprehensive Safeguard Agreement (CSA)-1972**

The traditional IAEA safeguards system for the NPT is laid out in **INFCIRC 153**, "The Structure and Content of Agreements."

**Subsidiary arrangements**

Practical measures for implementation of CSA.

These Subsidiary Arrangements, including what are called: "**Facility Attachments**" that describe safeguards activities at a more detailed level.

These **facility attachments** describe the individual facilities.

**Code 3.1**

Inform IAEA not later than **180 days** before introductive nuclear materials.

**Modified Code 3.1**

Inform IAEA as soon as decided and start the project.

The **Additional Protocol** is a legal document negotiated between the International Atomic Energy Agency (IAEA) and an individual state granting the IAEA further inspection authority to that provided in that state's Comprehensive Safeguards Agreement with the IAEA. The Additional Protocol aims to enable the IAEA inspectorate to provide assurance about both declared and possible undeclared activities and to get a more complete picture of a state's overall nuclear program.

**Additional Protocol is not legally binding instrument and not as integral part of NPT or CSA.**

## Global Security threat by NWs in military bases and vessels

- The US and Russia both use vast quantities of HEU for naval propulsion, estimated at 40-60 tonnes for Russia and 90-100 tonnes for the US. The UK also uses HEU for naval propulsion; estimates suggest that 7.2 tonnes is devoted to its Naval Nuclear Propulsion Programme.
- **One example among several:** In 2007, six nuclear-armed cruise missiles at Minot Air Force Base in North Dakota were mistakenly loaded onto a B-52 bomber which sat unguarded overnight before flying 1,500 miles to a base in Louisiana where it was again left unguarded until a maintenance crew there realised the problem. The weapons were unguarded for a total of 36 hours.

## Threat of cyber attack against nuclear installations

The most dangerous cyber attack is against nuclear facilities since it has radiological consequences

- *Stuxnet* is a computer worm discovered in June 2010 that is believed to have been created by the United States and Israel to attack **Iran's nuclear facilities**. It switched off safety devices, causing centrifuges to spin out of control.
- The computers of South Korea's nuclear plant operator (KHNP) were hacked in December 2014. The cyber-attacks involved thousands of phishing emails containing malicious codes, and information was stolen.

## **Military Attacks against Nuclear Facilities in the Middle East**

- Iraqi Research Reactor was attacked by Israel in 1981.
- Saddam regime attacked Iranian Bushehr Nuclear Power Plant several times from 1984 to 1988, even after the cease fire UNSC resolution 598.
- Syrian Site Al-Zour was attacked in 2007 by Israel under the false pretext that it was a nuclear reactor site. Note that Syria, the attacked country, was instead sent to the UNSC by 17 votes of the Board of Governors of the IAEA.



## **Global Impact of the Nuclear Security in the Middle East**

The Middle East is the only region which has experienced the military attacks and sabotage against nuclear facilities and is still facing daily threats of attack.

Based on the lessons from nuclear accidents in Chernobyl and Fukushima, if a nuclear facility in the Middle East is militarily attacked or is sabotaged, there is a high risk of transboundary release of radioactive material. The radiological and humanitarian consequences shall be beyond this region.

## International Measures on Nuclear Security

- Resolution on Israeli Attack against Iraqi Nuclear Reactor adopted on 25<sup>th</sup> IAEA General Conference in 1981, GC(XXV)/INF/196/Rev.1 16 July 1981
- Prohibition of all armed attacks against nuclear installations devoted peaceful purposes whether under construction or operation; GC(XXXIV)/RES/533 October 1990 (proposed by Iran)
- UNSC Resolution 1373; S/RES/1373 (2001)
- UNSC Resolution 1540; S/RES/1540 (2004)

## International Measures (cont.):

- **Convention** of Physical Protection of Nuclear Material and Nuclear Facilities (CPPNMNF);
- International **Convention** for the Suppression of Acts of Nuclear **Terrorism** (ICSANT);
- **The Nuclear Security Summits** were held 4 times: 2010, 2012, 2014, and 2016, but with an exclusive approach, excluding 150 countries, though nuclear security is a global concern;
- IAEA **Ministerial Conference** on Nuclear Security was held in 2013, 2016, and 2020, but in an inclusive approach.

## Resemblance of armed attack against nuclear facilities to atomic bombardment

*“Dear Ali,*

*9 October 2014*

*I took a very active part in the drafting of what became art.56 of the Protocol Additional to the Geneva Conventions of 12 August 1949. The article has regard to the protection of works and installations containing dangerous forces and protects ‘nuclear electrical generating stations against attack, if the attack may cause the release of dangerous forces and consequent severe losses among the civilian population.’ I have also great appreciation for the resolutions adopted by the General Conference of the IAEA on measures to strengthen international co-operation in matters relating to nuclear safety and radiological protection. Certainly, the protection of civilians is the most important rationale for the provisions of these documents. **I think any belligerent action against objects that could release radioactive material may stand as seriously condemned as an attack with nuclear weapons.** Any such attacks could also put the whole nuclear industry in the world in jeopardy.*

*With warm personal regards,  
Hans Blix”*

## Initiative on the immunity of nuclear facilities in the Middle East from armed attack

Proposed language of the Initiative:

The United Nations is proposed to be entrusted to organize a historical event on simultaneous announcement by all Governments in the Middle East on Immunity of Nuclear Facilities and Commitment not to attack Nuclear Facilities

### Background International Documents:

- **IAEA Resolution 533 of 1990**
- **IAEA General Conference Unanimous Decision of 2009**
- **NPT Final Document of 2010**



Vienna International Institute for Middle East Studies

### **Our Vision**

Innovative conducive initiatives to promote peaceful developments in the Middle East

### **Our Mission**

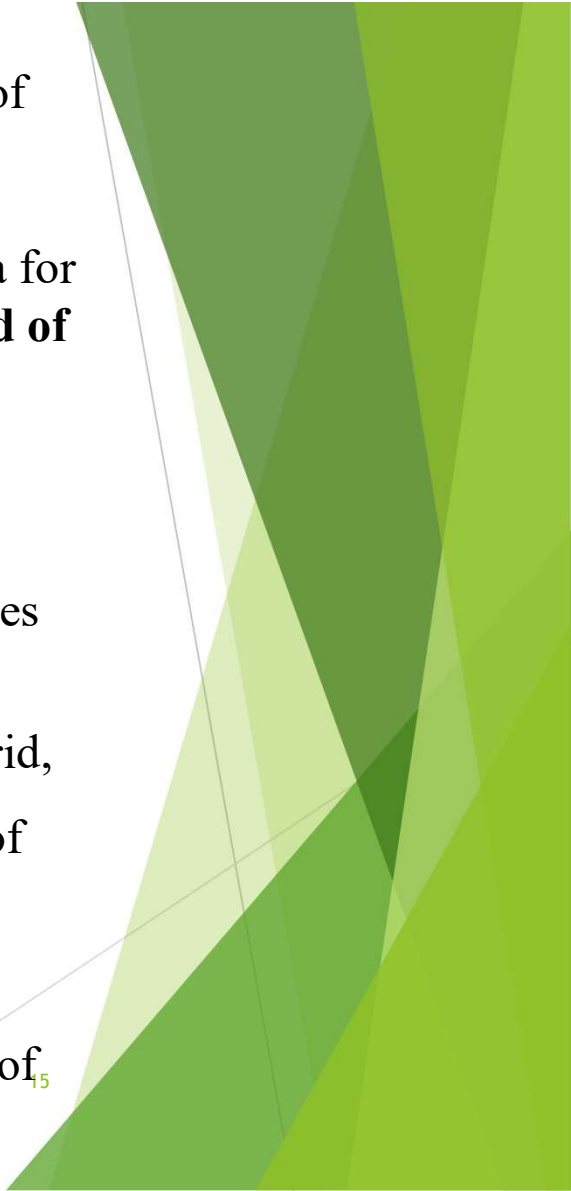
- Promotion of dialogue among Middle Eastern nations
- Achieving a Middle East free from WMD
- Studying obstacles to sustainable development in the Middle East
- Studying the impact of Middle Eastern developments on geopolitics of energy

### **Our means to achieve the above objectives**

- Research on key topics and publication of relevant papers
- Convening meetings, seminars and events to promote dialogue among top experts
- Regular workshops and seminars

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Thanks for your kind attention