



**Monterey Institute
of International Studies**
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IAEA Safeguards

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- **We're going to talk a lot about history**
- **We're going to show that unfortunately there are a number of Safeguards regimes that depend on the status of the individual state (country)**
- **Keep in mind that throughout that Safeguards is a system of accounting and control to ensure that certain types of materials are not diverted from peaceful use purposes**



What is the International Atomic Energy Agency (IAEA)?

- **Independent International Organization**
 - **Membership is not the same as UN**
- **Director General (DG), currently Y. Amano, reports to the Security Council**
- **Structure (DDGs)**



The Problem

- **World War II ends in 1945 with the use of atomic bombs at Hiroshima and Nagasaki**
- **US is the only nuclear power**
- **United Nations formed and replaces defunct League of Nations**
- **How can atomic energy (nuclear weapons) be controlled??**



United Nations Atomic Energy Commission (UNAEC)

- Founded in January 1946 by Resolution 1 of the UN General Assembly**
- Establishment of a Commission to Deal with the Problem Raised by the Discovery of Atomic Energy**
- Disbands in 1952 but inactive after July 1949—
one month before first Soviet test**



United Nations Atomic Energy Commission (UNAEC)

- **Terms of Reference include arguably the first reference to Safeguards**



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(a) for extending between all nations the exchange of basic scientific information for peaceful ends;

(b) for control of atomic energy to the extent necessary to ensure its use only for peaceful purposes;

(c) for the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction;

(d) for effective safeguards by way of inspection and other means to protect complying States against the hazards of violations and evasions.



United Nations Atomic Energy Commission (UNAEC)

- US studies the issue and makes a proposal, the **Baruch Plan**, to the United Nations via UNAEC
- **Baruch Plan**, based on the Acheson-Lilienthal report, proposed that the US would destroy its nuclear weapons if there were veto proof UN controls that would ensure peaceful use only. Plan was passed by UNAEC but blocked by USSR in Security Council



Filing the Gap UNAEC to IAEA and NPT

- **Cold War becomes controlling feature**
- **United Kingdom goes nuclear in 1952**
- **Atoms for Peace in 1953**
- **IAEA in 1957**
- **France goes nuclear in 1960**
- **China goes nuclear in 1964**
- **NPT 1965-1968 development, 1970 into effect**



Creation of the International Atomic Energy Agency (IAEA) 1957

- **Arguably a replacement for defunct UNAEAC– reports to UN Security Council**
- **Statute of the IAEA**
 - **Article III authorized the establishment of Safeguards and to apply them at request of parties to an international instrument or at the request of a state.**



Statute of the IAEA

- **Article XII sets up Safeguards program with staff of inspectors**

IAEA issues Information Circulars INFCIRCs

- **INFCIRC/26 in 1961 (research, test, and power reactors < 100 MW thermal) and INFCIRC/66 in 1967 establish pre-NPT Safeguards**



Status pre-NPT

- **It is important to understand that Safeguards pre-date the NPT and that they apply to states that have not signed the NPT**
- **Pre-NPT Safeguards rely on the states to declare facilities**



Safeguards and the Relation to the Nonproliferation Treaty (NPT)

- **NPT, which went into effect in 1970, requires states to accept Safeguards on all nuclear materials per Article III**
- **INFCIRC/153 defines the agreement between the states and IAEA pursuant to the NPT**
- **This is referred to as Comprehensive Safeguards (note Nuclear Suppliers Group, etc.)**



- **Source and Special fissionable material (see IAEA Statute Article XX) are covered**
- **INFCIRC/153 establishes State System of Accounting and Control (SSAC). This is the “bookkeeping” aspect of Safeguards**
- **Other elements of 153 are Information and Access**
- **States make an initial declaration which is verified by inspection**



- **Definition and importance of a “Significant Quantity” (SQ)**
 - **Defined for uranium 233 and 235 and plutonium**
 - **Basically an amount that will establish a weapons program**
- **Goal is an inspection frequency that will detect the diversion of an SQ**
- **Note that detection NOT PREVENTION is goal of Safeguards**



- **Safeguards ties to Export Controls**
 - **Zangger Committee**
 - **Nuclear Suppliers Group**
- **Both have ties to IAEA Safeguards**
- **Note US-India agreement and its challenge to NPT structure while requiring Safeguards**



- **Small Quantities Protocol (GOVINF/276)**
 - **Designed for states with small holdings**
 - **Eliminates a lot of paperwork**
 - **Still need to have SSAC and make annual report**



- **Lessons from Iraq, Libya, Syria, Iran, South Africa, and North Korea showed NPT/Safeguards system was being “gamed” and that INFCIRC/153 Safeguards may not be sufficient**



- **INFCIRC/540 defines the Model Additional Protocol**
 - **Expands information state must provide**
 - **Allows for inspection of the total fuel cycle**
 - **Allows for short-notice inspections**
 - **Allows for environmental sampling**
- **Begins to focus on state-level, as opposed to facility-level protocols**



- **How are Safeguards Implemented?**
 - **Inspections**
 - **Tamper resistant Seals**
 - **Non-destructive assaying methods**
 - **Real-time monitoring**
 - **Intelligence-like activities**



- **The contribution of Safeguards to Nonproliferation**
 - Doesn't prevent
 - Raises awareness
- **Loopholes**
 - Potential for non-weapons military use, e.g. nuclear powered submarines
 - Doesn't account for non-state actors
 - Doesn't cover all weapons materials



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