

FLC 301/Fall 2001

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Briefing of 11/14/2001

The Functioning of Global Institutions --the Example of the International Atomic Energy Association-IAEA

by

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1. Jargon

- "IAEA" means the International Atomic Energy Agency
- "the agency" means the International Atomic Energy Agency
- "NPT" means the Treaty on the Non-Proliferation of Nuclear Weapons
- "DPRK" means North Korea
- "Comprehensive safeguards" means that IAEA safeguards applies to all the nuclear material in peaceful uses in the State
- "HEU" means Highly Enriched Uranium
- "LEU" means Low-Enriched Uranium

2. Task of International Organizations

- Perform for the benefit of disparate countries
- Employ staff from many countries
- Follow procedures amalgamated from disparate practices, e.g., several official languages, a few or only one working language, editorial practices and spelling rules from only one country

3. History and Membership of the IAEA

- Early proposals (1946 - 1952) of international controls on nuclear materials were not agreed
- New proposal of "Atoms for Peace" by President Eisenhower on 8 Dec. 1953
- Statute of IAEA approved by 81 countries on 23 Oct. 1956

The International Atomic Energy Agency

- The IAEA was established to achieve the objectives of many nations
- It includes functions necessary for a sufficient membership

- 57 Member States in 1957, from all continents except Antarctica
- 132 Member States as of June 2001
- IAEA Headquarters are in Vienna, Austria

4. Objectives of the IAEA

- "The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world."
- "It shall ensure, as far as it is able, that assistance provided by it ... is not used in such a way as to further any military purpose."
- See Video tape: "Harnessing the Atom" (IAEA, 1999, NTSC VHS, English, 23 minutes). "Splitting the atom has had a major impact on the history of the later part of the 20th century. This film depicts the many beneficial - and also drawbacks - of

nuclear technology, and describes how the International Atomic Energy Agency performs its various tasks. It touches on challenges such as the choice between major energy sources, growing concerns about the global climate, and proposals for nuclear arms control and disarmament."

5. Organizational Tensions, Structure, and Budget

- Budgetary tensions between the promotional objectives and the regulatory objectives
- Operational tension between performance of functions, development of improved equipment and procedures

Overall IAEA Organization

- The IAEA General Conference
- The IAEA Board of Governors and the Secretary of the Board
- The IAEA Secretariat: the Director General, the staff, many meetings
- IAEA Organization Chart from 2000 IAEA Annual Report (Note: Head of the Department of Nuclear Safety is now Mr. Tomihiko Taniguchi, Japan)
- Heads of Departments (see viewchart from www.iaea.org, Note: that Mohamed ElBaradei, of Egypt, was re-appointed by acclamation of the General Conference in Sept. 2001 to a second four-year term which takes effect on 1 Dec. 2001).

Budget in 2000 for IAEA Programs

- Total budget: \$195,235,000 as obligation of member states
- Technical Co-operation (approximate): \$90,000,000 as obligation of member states and \$73,000,000 in voluntary target
- Safeguards: \$70,608,000 as obligation of member states and \$10,311,000 as voluntary offers

6. IAEA Safeguards

Early IAEA Safeguards

- In February 1962, the first safeguards "inspection" was conducted by the IAEA at the Nora facility in Norway for the limited purpose of reviewing the design of the critical assembly of nuclear material, so that the research facility could be exempted from further inspections.
- The first IAEA safeguards inspection to apply most features of the Agency's Safeguards System was performed at the Graphite Research Reactor at Brookhaven National Laboratory on Long Island in 1962.
- The US government voluntarily placed the Brookhaven Graphite Research Reactor under IAEA safeguards.
- Early IAEA safeguards were applicable only to specific nuclear material or equipment as a result of limited arrangements between States.
- In an early case between Pakistan and Canada, one reactor in Pakistan was to be safeguarded.

7. Treaty on the Non-Proliferation of Nuclear Weapons

- Experience with bilateral safeguards led to negotiations for a multi-national treaty.

- After about 7 years of negotiations, the Treaty on the Non-Proliferation of Nuclear Weapons was commended by the UN General Assembly on June 12, 1968.
- Upon ratification by 46 states, including the U.S., the Non-Proliferation Treaty went into effect on March 5, 1970
- Nations voluntarily agreed to allow foreign nationals to routinely enter their countries to inspect and verify compliance with the treaty.
- Important precedence for verification of each State's compliance with treaties

Non-Proliferation Treaty Safeguards

- Basic Undertaking by the State : "to accept [IAEA] safeguards ... on all source or special fissionable material in all peaceful nuclear activities within its territory, under its jurisdiction or carried out under its control anywhere for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices." (emphasis added)
- Another State obligation: to provide the IAEA "with information concerning nuclear material subject to safeguards ... and the features of facilities relevant to safeguarding such material."
- Based on the information provided by the State, the IAEA is to perform inspections at Strategic Points in each facility which produces, uses, handles or stores nuclear material in amounts exceeding defined "de minimis" quantities.
- IAEA safeguards under NPT does not apply to (a) material in mining or ore processing activities, (b) small amounts which are exempted from safeguards, (c) material which is no longer usable for any nuclear activity relevant to safeguards or has become practicably irrecoverable.
- Objective of IAEA safeguards: "the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices, and deterrence of such diversion by the risk of early detection." (emphasis added)
- See video tape: "Headquarters Vienna" (IAEA, 1985, NTSC VHS, English, 17 minutes). This film was replaced in 1995 by a much duller, but more up-to-date, version. The duller version is "International Safeguards" (IAEA, 1995, NTSC VHS, English, 22 minutes). "It illustrates the range of field inspections and analytical work involved in the IAEA work to verify that governments are living up to pledges to use nuclear energy only for peaceful purposes under the NPT and similar agreements. It also shows how new approaches are helping to strengthen the system."

8. Nuclear Power Reactors around the World and their Safeguarding

- Illustration viewchart of the Nuclear Share of Electricity generation taken from www.iaea.org
- Number of States with Significant Nuclear Activities (see the Table of the Number of States taken from www.iaea.org, Note that "Taiwan, China" is not counted as a "State.")

Nuclear Facilities under IAEA Safeguards

- Power Reactors 196
- Research Reactors 156

- Conversion Plants	13
- Fuel Fabrication Plants	42
- Reprocessing Plants	6
- Enrichment Plants	11
- Separate Storage Facilities	73
- Other Facilities	85
- Other Locations (minor)	319
- TOTAL	902

Nuclear Material Subject to IAEA Safeguards

- See viewchart of approximate quantities taken from www.iaea.org

IAEA Safeguards Inspections in 2000

- 2467 inspections were conducted at 584 facilities representing 10,264 person-days of inspection effort in the field.
- Also, pre-inspection planning and post-inspection evaluations were performed at IAEA field offices and at Headquarters.

Part 1 of the IAEA Conclusions for 2000

- "...the Secretariat ... found no indication of diversion of nuclear material placed under safeguards or of misuse of facilities, equipment or non-nuclear material placed under safeguards. ... the Secretariat concluded that the nuclear material and other items placed under safeguards remained in peaceful nuclear activities ..." (emphasis added)

9. Iraq and UN Security Council Resolution 687

- In April 1991, the UN Security Council established a Special Commission dealing with chemical and biological weapons and missiles in Iraq.
- The Director General of the IAEA was requested to deal with nuclear matters in Iraq and to work in parallel with the Special Commission.
- The Director General of the IAEA was given a mandate by the UN which exceeded IAEA rights and obligations under the existing NPT Safeguards Agreement between the Iraq and the IAEA.
- The new IAEA mandate in Iraq, as agreed to by Iraq, was to perform inspections at any time and any place with negligible advance notice, similar to the inspections to be performed by the UN SC Special Commission for chemical and biological weapons and missiles.
- The Director General, with the approval of the IAEA Board of Governors, formed an Action Team to perform both the normal safeguards in Iraq under the NPT Safeguards Agreement and the expanded activities under UN SC Resolution 687.
- The IAEA conducted 29 numbered inspections from 1991 to 1998 under UN SC Resolutions.
- Violations of the NPT were discovered by the IAEA in the course of short-notice inspections at additional places in Iraq.
- New UN Resolutions called upon the IAEA to use specialists from many countries to render harmless the nuclear material and equipment for nuclear weapons.

- The IAEA established a continuous presence in Iraq in August 1994 to implement the required Ongoing Monitoring and Verification (OMV).
- More than 1500 Ongoing Monitoring & Verification inspections were conducted.
- IAEA inspectors were withdrawn from Iraq in December 1998 for safety reasons.
- Subsequent IAEA inspections were carried out only in January 2000 and 2001. Continuity of information was lost.
- See the video tape: "Mission Iraq" (IAEA, 1994, PAL-not issued in NTSC-VHS, English, 38 minutes). "This documentary shows the work of the IAEA field inspectors in uncovering Iraq's secret nuclear program after the Gulf War, the obstacles they encountered and the results they achieved."

10. Democratic People's Republic of Korea

- North Korea (formally DPRK) joined the NPT in Dec. 1985.
- It took more than the specified 180 days for DPRK to agree to implement its Safeguards Agreement with the IAEA.
- For five years, various States urged DPRK to do so.
- DPRK agreed to legal documents in April 1992 and inspections started.
- The IAEA found discrepancies between the nuclear material declared and presented by the DPRK; and the IAEA's measurements of the nuclear material, especially the isotopic composition.
- The IAEA requested additional information from DPRK.
- The explanations offered by DPRK did not resolve the discrepancies.
- The US provided satellite photographs (confirmed by other states) of additional places to be declared by DPRK.
- The IAEA requested arrangements to conduct a "Special Inspection" in DPRK.
- When DPRK refused to allow any Special Inspections, the IAEA reported to the UN in 1993 that it was unable to verify the correctness and completeness of DPRK's declaration of nuclear material to conclude that there had been no diversion of nuclear material. (emphasis added)
- DPRK threatened to withdraw from the Non-Proliferation Treaty.
- The US and DPRK concluded in 1994 an "Agreed Framework."
- DPRK's NPT Safeguards Agreement remains binding and in force.
- As requested by the UN Security Council, the IAEA monitors the resulting "freeze" of pertinent facilities identified in the "Agreed Framework."
- The IAEA maintains the permanent presence of two inspectors in the DPRK.
- See the 3 minutes covering "swipe samples" and DPRK from the video tape: "International Safeguards" (IAEA, 1995, NTSC VHS, English, 22 minutes). "The film illustrates the range of field inspections and analytical work involved in the IAEA work to verify that governments are living up to pledges to use nuclear energy only for peaceful purposes under the NPT and similar agreements. These 3 minutes shows how new approaches are helping to strengthen the system."

11. South Africa

- Until 1991, South Africa was inspected by the IAEA only at a few specific facilities.
- It was one of eight States with significant nuclear activities who had not joined the NPT or other comprehensive safeguards arrangement.

- Early in 1993 while the IAEA was verifying South Africa's initial report, South Africa announced that before joining the NPT it had dismantled its secret nuclear weapons. South Africa requested the IAEA to inspect records of its secret program and of the dismantlement. South Africa invited the IAEA to inspect all places involved and cooperated with additional measurements by the IAEA.
- See ending part of video tape: "International Safeguards" (IAEA, 1995, NTSC VHS, English, 22 minutes). Note that the first 16 minutes were skipped, including two minutes about swipe samples and one minute about DPRK.

12. Strengthening IAEA Safeguards

- To avoid future case like Iraq, the Secretariat identified safeguards measures which could be enhanced under existing NPT legal authority.
- The IAEA Board of Governors approved on 15 May 1997 a "Model Additional Protocol" for States to voluntarily accept so IAEA safeguards could go beyond NPT safeguards.
- The IAEA Board has approved Additional Protocols for 57 States (plus Taiwan, China)
- The Secretariat had at least started to implement the Additional Protocols in 19 States in 2000.
- The Issue of nuclear "Haves and Have-Nots:" See, if time permits, the video tape: "War and Peace in the Nuclear Age: The Haves and Have-Nots" (Part VIII of the series, The Annenberg/CPB Collection, 58 minutes, Premiered January 1989, ISBN 0-89776-492-7)
- Part 2 of the IAEA Conclusions for 2000: "In 2000, in respect of seven States, the Secretariat - having evaluated all the information obtained through activities pursuant to these State's comprehensive safeguards agreements and additional protocols ... - found no indication either of diversion of nuclear material placed under safeguards or of the presence of undeclared nuclear material or activities ... " (emphasis added)
- Part 3 of the IAEA Conclusions for 2000: "In the case of twelve other States with comprehensive safeguards agreements and additional protocols in force, no such conclusion could so far be drawn on the basis of the evaluation of the information available to the Agency." (emphasis added)
- Part 4 of the IAEA Conclusions for 2000: "The Agency is still unable to verify the correctness and completeness of the initial report of nuclear material made by the Democratic People's Republic of Korea (DPRK) and is, therefore, unable to conclude that there has been no diversion of nuclear material in that State."
- Part 5 of the IAEA Conclusions for 2000: "Since December 1998, the Agency has not been in a position to implement its Security Council mandated activities in Iraq and could not, therefore, provide any assurance in 2000 that Iraq was in compliance with its obligations under these resolutions."