



Nuclear Transparency Through Open Source Solutions

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1

Need for Nuclear Transparency

- Nuclear nonproliferation: Ultimate Policy Objective.
- Revelations of Iraq's nuclear violations.
- North Korea's nuclear program.
- Nuclear testing by India and Pakistan.

2

The Nuclear Nonproliferation Regime

- The Nonproliferation Treaty and related treaties.
- The Nuclear Suppliers Group and the Zangger Committee.
- The International Atomic Energy Agency and its safeguards system.
- Comprehensive Test Ban Treaty (CTBT)
- Fissile Material Cut Off Treaty (FMCT)
- Nuclear Weapons Free Zones (NWFZ)

3

The NPT

- Parties demonstrate a legally binding commitment to nuclear nonproliferation.
- Non-Weapon States offer all nuclear activities to inspection by the IAEA.

4

The Nuclear Supplier Arrangements

- NSG & Zangger Committee Lists: Guidelines to control goods and technologies (publicly available through the IAEA).
- Seminars held to inform non-members of the suppliers groups of the guidelines and the conditions of supply.

5

Safeguards: Before 1997

- Information used by the IAEA was safeguards confidential.
- Transparency of Member State programs was limited.
- Non-use of open source information in the implementation of safeguards.

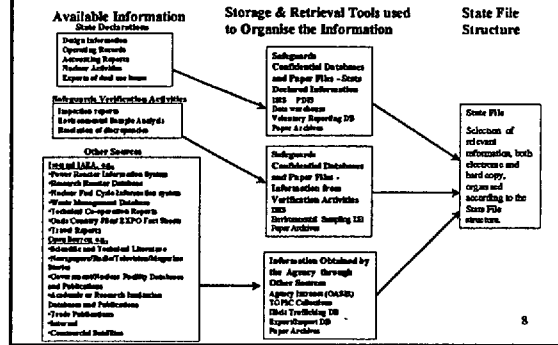
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Safeguards: After 1997

- May 1997: Model Protocol approved.
 - Requires a comprehensive declaration of all nuclear and nuclear-related activities.
 - IAEA seeks to detect the diversion of nuclear material and discover undeclared nuclear activities

7

IAEA Comparative Analysis



8

New Open Source Information: High Resolution Satellite Imagery



9

Technological Advances

- Computer hardware and software.
- The Internet
- Text Retrieval
- Text Mining
- Machine Translation
- Information Management

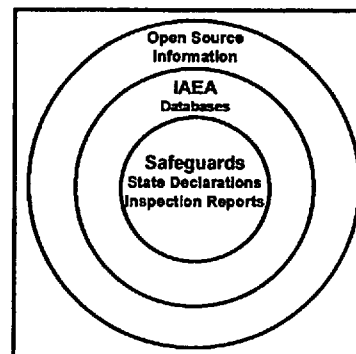
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Future Open-Source Exploitation

- Retrieving Information from local Sources
 - Original format and languages
- Scientific & Technological Literature
 - Dissertations
 - Scientific Reporting
 - Conference Proceedings
- Networks
 - Regional Experts
 - Technical Experts
 - Member State Open Source Databases

11

IAEA Information Environment



12

Nuclear Transparency: A Shared Responsibility

- **NGOs expected to promote transparency by use of satellite imagery and other open source information.**
- **Transparency a deterrent to nuclear proliferation.**
- **Verification of a country's nuclear intentions is a shared responsibility.**

OSS 21 PRIMER Essential Elements of Information Joint Planning, Operations Other Than War and Open Source Intelligence - Link Page

[Previous](#) [Building Intelligence at Fifteen: The Problems and Dynamics of Informing European Defense Decisions](#)

[Next](#) [THE ROLE OF OPEN SOURCE INFORMATION IN ENHANCING NUCLEAR TRANSPARENCY](#)

[Return to Electronic Index Page](#)