

Present Status of Cooperation in Nuclear Forensics ITWG and EU Activities



Klaus Mayer

*Joint Research Centre
Institute for Transuranium Elements (ITU)
Karlsruhe, Germany*

<http://itu.jrc.cec.eu.int>

- **Nuclear Forensics** is a highly specialized discipline in science
- Only **few cases** per year are subject to detailed nuclear forensics investigation
- Only **few laboratories** around the world sophisticated nuclear forensics capabilities

Need for cooperation

- Advancing the science
- Ensuring smooth interaction
- Providing support



- ITWG was founded as a result of a **G-8 initiative** (Ottawa Summit 1995 and Moscow Nuclear Security Summit 1996) under the NPEG (Non Proliferation Experts Group)
- Today, ITWG reports informally to G-8's Nuclear Safety and Security Group
- ITWG is open to all states interested in nuclear forensics (currently 30 countries)
- ITWG is an informal association of nuclear forensics **practitioners**
- Regulatory Authorities, law enforcement, radiation protection, measurement laboratories
- ITWG also works together with the International Atomic Energy Agency



- Identify and prioritize techniques and methods for forensic analyses of
 - seized **nuclear materials** to answer questions regarding sources and the intended use of these materials
 - **non-nuclear materials** associated with seized nuclear and radiological evidence
- Improve technical capabilities for collection and preservation of evidence, initial on-scene categorization, identification of applicable laws and statutes, and assistance in **nuclear forensic investigations**
- Formulate and execute **interlaboratory exercises** to evaluate and improve forensic analysis of seized nuclear materials

ITWG Executive Committee is represented by members from the European Commission, the United States, Hungary, France, and Great Britain

- 1. Evidence Collection Task Group** concentrates on post-incident management with focus on preservation of evidence; proposing a **catalog of national first responder exercises**
- 2. Guidelines Task Group** is developing **consensus guidelines** that can be referenced by analytical laboratories represented at ITWG meetings; guideline developed for both techniques (e.g. mass spectrometry) and materials (e.g. uranium oxide)
- 3. Communications, Outreach and Training Task Group** maintains close ties with IAEA, European Networks of Forensic Science Institutes, Europol, Interpol, the FBI and World Customs Organization; we have launched a **secure web-site** to facilitate exchange of information and an **open web-site**.

ITWG Executive Committee is represented by members from the European Commission, the United States, Hungary, France, and Great Britain

- 4. Exercise Task Group** designs and organizes analytical and scenario-based **training exercises** to improve nuclear forensics response; ITWG conducted analytical exercises involving plutonium in 1998-2000 and highly enriched uranium in 2000-2002. A third exercise has just been completed.
- 5. Task Group on Libraries** encourages the development of national compilations of **relevant data or archive samples** on nuclear material for supporting nuclear forensics interpretation.



- ITWG as an **informal group** has maintained continuity and progress over fifteen years
- **Aims at advancing the science** of nuclear forensics and providing a common approach
- ITWG established Nuclear Forensics as **integral part of response process**
- Multi-agency, interdisciplinary and international group
- Nuclear Forensics provides **sustainability** in combating illicit trafficking of nuclear material

- Operational support
- Nuclear Security related Training:
establishing a European Nuclear Security
Training Center
- Cooperation in Nuclear Forensics
 - Exchange of **best practices**
 - Joint exercises, joint analysis
 - Support the creation of **regional networks**
 - Support **establishing core capabilities in
nuclear forensics**

Nuclear Forensics Laboratory

Legal Basis

- Framework Agreement
- Collaboration Agreement

Requesting Parties

- EU Services
- EU Member States
- Other States
- IAEA

itu



- Specific Contract
- Exchange of Letters
- IAEA NSS No.2

- Political level
(e.g. Ministry for the environment)
- Law enforcement
(e.g. police, prosecutor)
- Other Authority
(e.g. office for radiation protection)